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STATISTICAL SOCIETY

OF

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NOTICE.

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CONTENTS.

Page

Contributions to the Statistics of Sugar Produced within the British Dominions in India. By Lieut.-Colonel W. H. Sykes, F.R.S. 1

Agricultural Statistics of Ireland. By G. R. Porter 25

On the Relative Value of Averages derived from different numbers of Observations. By William A. Guy, M.B., Cantab, Fellow of the Royal College of Physicians; Professor of Forensic Medicine, King's College; Physician to King's College Hospital; Honorary Secretary of the Statistical Society 30

Statistical Account of the Labouring Population Inhabiting the Buildings at St. Pancras, erected by the Metropolitan Society for Improving the Dwellings of the Poor. By Lieut.-Colonel W. H. Sykes, F.R.S. 46

On the Progress of Emigration from the United Kingdom during the last Thirty Years, with reference to the growth of the Population during the same Period. By J. T. Danson 61

The Influence of Subdivision of the Soil on the Moral and Physical well-being of the People of England and Wales. By John Barton, Esq. 63

Railways in Prussia and other Continental States, at the close of the Year 1848. Contributed by Bernard Hebeler, Esq., Consul-General for Prussia.... 77

Statistics on the Manufacture of Plate Glass in Great Britain, from 1760 to 1847, with Remarks on Foreign Productions and the Export Trade. By Henry Howard, Esq., Plaistow, Essex 80

Miscellaneous 84

Sixteenth Annual Report of the Statistical Society of London. Session 1849-50 97

On the Origin and Spread of Cholera in the 8th District of Plympton St. Mary, Devonshire. By A. C. MacLaren 103

Abstract of the Report of a Tour in the Five Departments of Brittany, during the Years 1840 and 1841, under Instructions from the Academy of the Moral and Political Sciences, made by MM. Benoiston de Chateauneuf and Villerme, Members of that Academy; from the Fourth Volume of the Memoirs of the Academy of the Moral and Political Sciences of Paris 134

On the Fluctuations of the Annual Supply and Average Price of Corn in France, during the last Seventy Years, considered with particular reference to the political periods of 1792, 1814, 1830, and 1848. By J. T. Danson 152

Vital Statistics of Calcutta. By Dr. Cuthbert Finch 168

Miscellaneous 183

Page

Mortality of Master Mariners. By F. G. P. Neison, Esq. 193

On a Comparative Statement of Prices and Wages during the Years from 1842 to 1849. By G. R. Porter, F.R.S. 210

Proposal for preserving and making a general index of the Parish Registers anterior to 1837. By Rev. E. Wyatt-Edgell 218

Statistical Account of the Police of the Metropolis. By Joseph Fletcher, Esq., Barrister-at-Law, Honorary Secretary 221

Proceedings of the Census Committee of the Statistical Society of London, 1850 267

Miscellaneous 270

Progress of the Foreign Commerce of France during the Reign of Louis Philippe, 1830-48. By J. T. Danson 289

Examination of the recent Statistics of the Cotton Trade in Great Britain. By G. R. Porter, Esq., F.R.S. 305

Mortality of the Provident Classes in this Country and on the Continent. By F. G. P. Neison, Esq. 313

On the Self-imposed Taxation of the Working Classes in the United Kingdom. By G. R. Porter, Esq., F.R.S. 358

Miscellaneous 364

OBJECTS AND PROGRESS

OF

THE STATISTICAL SOCIETY OF LONDON,

12, St. James's Square.

The Statistical Society of London was founded on the 15th of March, 1834, in pursuance of a recommendation of the British Association for the Advancement of Science, for the purpose of collecting, arranging, and publishing facts calculated to illustrate the condition and prospects of society, and especially facts which can be stated numerically and arranged in tables. The collection of new statistical materials, it was contemplated, would form only one part of the Society's labours; the condensation, arrangement, and publication of those already existing, whether unpublished, or published only in an expensive or diffuse form, or in foreign languages, being a work of equal usefulness. It was also a prominent object of the Society to form a complete Statistical Library as rapidly as its funds would permit.

Such was the purport of the original prospectus; and now that the Society is in the sixteenth year of a prosperous existence, its Fellows have every reason to revert with satisfaction to this outline of its objects; for it is very seldom that the first designs of a public association for the advancement of science are all carried out with so much success as has attended upon those which that prospectus describes. The resources of the Society were, in the first instance, chiefly devoted, under the direction of its Committee, to the collection of new statistical information, and to this great purpose a part of its funds is still appropriated. Its monthly meetings have cultivated among its Fellows an active spirit of investigation, and brought out the valuable results of much individual labour. Its journal has fulfilled the purpose of condensation and publication; and the valuable books and papers which have already been collected form a library of facts of no mean utility.

The Sixth Annual Report of the Society, which contains an elaborate description of the scope and system of its labours, divides Statistics into the following chief sections:—

I. The *Statistics of Physical Geography, Division, and Appropriation;* or, geographical and proprietary Statistics.

II. The *Statistics of Production;* or, agricultural, mining, fishery, manufacturing, and commercial Statistics.

III. The *Statistics of Instruction;* or, ecclesiastical, scientific, literary, university, and school Statistics.

IV. The *Statistics of Protection;* or constitutional, judicial, legal, military, and criminal Statistics.

V. The *Statistics of Life, Consumption, and Enjoyment;* or, of population, health, the distribution and consumption of the commodities of life, and public and private charity.

All the departments of Statistics above described may be cultivated to the development of as many branches of moral science, and to the attainment of that true insight into the actual condition of Society, without which the application of remedial measures is purely empirical.

Under this conviction, the original prospectus announced the intention of the Society carefully to exclude all "opinions" from its publications; not, assuredly, with the view of discouraging the proper use of hypothetical reasoning, but for the purpose of devoting the pages of its transactions to facts, and not to systems. In the pursuit of almost every investigation, the inquirer will adopt some hypothesis; but its truth and completeness, or its fallaciousness and insufficiency, must be demonstrated by observation and experiment. It is therefore the main purpose of scientific associations to call forth and register the results obtained by these processes; and observation in the wide field of human interest supplies those "facts calculated to illustrate the condition and prospects of society," which it is the design of the Statistical Society to "collect, arrange, and publish."

The pursuit of Statistical inquiries has already made such progress, not in England alone, but throughout Europe, as henceforth, to be a necessity of the age, and one of its most honourable characteristics. Thus errors as to the actual condition and prospects of society are daily exploded, and more just data are supplied to guide the exertions of the philanthropist, the judgment of the legislator, and the speculations of the reasoner. The labours of the Statist, indeed, can alone assure us that we are really advancing in that knowledge of human interests in the aggregate to which it is no longer possible to deny the name of Science.

The Statistical Society of London consists of an unlimited number of Fellows, admitted by ballot, without any entrance fee, but paying a subscription of two guineas per annum; of foreign Honorary Members; and of Honorary Corresponding Members, resident out of the United Kingdom; and it carefully cultivates a connexion with the several local societies of the Empire, and a correspondence with those of Foreign Countries. Fellows elected in or after the month of June are exempt from paying their subscription for the current year. The Journal of the Society, published quarterly, is distributed gratuitously to all the Fellows; its library is one of circulation; and its Rooms and its Monthly Meetings are of great resort.

Statistical Society of London,
February 1*st*, 1850.

QUARTERLY JOURNAL

OF THE

STATISTICAL SOCIETY OF LONDON.

FEBRUARY, 1850.

Contributions to the Statistics of Sugar Produced within the British Dominions in India. By Lieut.-Colonel W. H. Sykes, F.R.S.

[Read before the Statistical Section of the British Association, at Birmingham, September, 1849.]

The Chamber of Commerce in Bengal, in September 1846, applied to the Government of India to procure for them a Statistical Return of lands cultivated in Bengal and the north-western provinces for the growth of Sugar-cane or Date trees, for the production of Goor or Sugar, desiring at the same time to know the probable consumption in each district. The object of the Chamber in requesting this information was to ascertain the capabilities of the soil in India, for extending the cultivation of sugar at a cost which would enable it to compete in the home markets with the foreign slave and free labour sugar, the prohibitory duties on which were removed by 9 and 10 Vict., cap. 63.

The Indian Government complied with this request, extending the application to the Presidencies of Madras and Bombay. On the receipt of the required information, the Indian Government, in 1848, caused the tabulated statements, with explanations of them, to be printed; constituting an official document. Although this document may be in the hands of interested parties in India, it has not been published in Europe, and is most probably little known. I may, therefore, be doing a certain amount of good in giving to it some publicity by submitting it to the Statistical Section in as condensed a form as is consistent with a perspicuous understanding of its details. It is not to be denied, however, that the numerous instances of *estimated* land under cane cultivation—estimated produce,—estimated consumption—and the marked discrepancies between these estimates, even from neighbouring districts, much more from distant parts of the country, lessen very much the value of the Returns, so that on the whole, they can only be considered as approximations to the truth: still I believe they are the only approximations we have. The document is designated "Statistics of British East India Sugar," but I cannot claim for it a better title than "Contributions to the Statistics of Sugar produced in India."

Sugar in India is produced from several sources: the sugar-cane,

of which there are several varieties—the Date (*Phœnix dactylifera*), Palmyra (*Borassus flabelliformis*) and Cocoa-nut (*Cocos nucifera*) trees: chiefly, no doubt, from the cane, but the produce from the palm tribe is not inconsiderable; for instance:

	Number of Date Trees used for Sugar.	Produce of of Goor in Maunds of 82 lbs each.	Equal to cwts. of Goor.	Equal to cwts. of Sugar.	Produce from 100 Trees.	Produce in lbs. per 100 Trees.
					Mds. S. C.	
Bengal	63,90,590	10,37,445	7,59,558	2,86,519	16 9 $5\frac{3}{4}$	1,330
North-Western Provinces	2,58,071	654	470	$156\frac{2}{3}$	3 12 12*	270
Madras	64,68,368	6,62,218	4,84,838	$1,61,612\frac{2}{3}$	10 9 8	838
Bombay	2,50,063	216	158	$53\frac{2}{3}$	No average	....

In the returns from Bengal and the north-western provinces, Date trees only are mentioned. In the returns from Madras and Bombay the date, palmyra, and cocoa nut trees are included, but very little sugar is made from these trees at Bombay; the juice which is daily drawn from the trees for the most part being fermented and converted into an inebriating liquor called Tarree or Toddy. As the Return of goor from the north-western provinces from this source is also small, the date trees are no doubt applied to the same purpose as in Bombay, for instance:—in the Delhi district 19,738 date trees produced 528 maunds of goor, and in Rohtuk 451 trees are represented to have produced 126 maunds; and in no other district of the north-western provinces do the remaining trees appear to be used for the production of sugar. The average produce to 100 trees in Bengal and Madras has reference only to trees of a mature age and in full bearing. The chief consumption of the saccharine juice of the cane, and that of the date, palmyra, and cocoa-nut trees is in the form of goor, which results from the first process of boiling down the juice to the consistency of bread-dough or putty. Subsequent manipulations improve the goor to khaur, dullooa, and sugar; 40 seers ($82\frac{2}{7}$ lbs.) of goor produce 26 seers ($53\frac{1}{4}$ lbs.) of khaur, but 40 seers of goor produce only $13\frac{1}{3}$ seers ($27\frac{1}{3}$ lbs.) of sugar. Dullooa is of a quality intermediate between khaur and sugar.

The area under sugar-cane cultivation is returned in Bengal in beegahs of 14,400 square feet, equal, therefore, very nearly, to one-third of an acre; the produce in goor or sugar is returned in maunds of 40 seers, equal to $82\frac{2}{7}$ lbs. avoirdupois, each seer, therefore, weighing 2·057 lbs., and the seer is divided into 16 chettaks of 900 grains each.

The following is the Return from Bengal, comprising nine territorial divisions, independently of Assam. The information is arranged under the following heads:—Territorial Divisions, Districts, Land under *Cane* Cultivation, Produce of Goor, Produce per Beegah (or acre), Number of Date trees producing Goor, Return of Goor, Produce of 100 Trees, Total Goor produced, Population, Consumption of Goor

* On 19,738 trees only.

per Head, Total Consumption of Goor in each District, Balance of Goor for Export, and, finally, *Average* Produce of Goor per Beegah for each Territorial Division. These several heads of information comprise all that it is desirable to know, provided the facts and figures were accurate. I have no doubt that neither zeal nor intelligence was wanting in collecting the information; but admitting that some of the columns of the tabular statements are filled up from absolute data, with a sufficient assurance of accuracy, the deductions from the details in these statements bring out such discrepant results, that inaccuracies must exist somewhere. For instance: in the produce of goor per beegah, the produce of goor from 100 date-trees, and the consumption per head, the first ranges from 19 maunds 20 seers (1,598 lbs.), in Pubna, of the Moorshedabad division, to 1 maund 38 seers (116 lbs.) at Cachar, in the Dacca division. In regard to the produce from 100 date trees, it varies from 50 maunds 11 seers (4,122 lbs.) at Dacca, in the Dacca division, to $8\frac{1}{2}$ seers (17lbs.) only at Balasore, in the Cuttack division; and for the consumption of goor per head of the population we find that it varies from 20 seers (40 lbs.) at Hazareebaugh, in the division of Hazareebaugh, to a seer (2 lbs.), or even less, at Pooneah, Bhaugulpoor division; Rungpoor, Moorshedabad division; and Lohurdugga, and Maunbhoom, in the Hazareebaugh division. And it is not that these contrasts are found in widely separated tracts, differing greatly in physical and social circumstances, but great discrepancies, although not to the extent above noticed, are met with in neighbouring districts. No doubt the varying fertility of the soil, and the age and luxuriant growth of the trees of the palm tribe will occasion very great differences in the products from different localities; and notwithstanding these discrepancies, the averages reduce the final results of the quantity of goor or its equivalent in sugar available for exportation, to a condition which admits of their being subjected to the test of the quantity absolutely exported from Calcutta; and the comparison is unexpectedly satisfactory. The Bengal and Benares divisions have an available export of sugar of 16,90,803 maunds ($61,895\frac{1}{2}$ tons), and the quantity actually exported from Calcutta, according to Wilkinson's Commercial Annual in 1845-6 and 1846-7, was respectively 18,39,374 maunds ($67,334\frac{1}{4}$ tons), and 17,15,217 maunds (62,789 tons). The produce of cultivation, therefore, seems understated, and there is probably more truth in the Return from Bengal than an analysis of its details would seem to justify. The districts in which the accuracy of the Returns is questioned for their low produce, are Baraset, Hooghly, Burdwan, Bhaugulpoor, Monghyr, Poorneah, Cuttack, and Koordah. Rungpoor, in the Moorshedabad division, compared with the neighbouring localities, gives a very questionable out-turn. Lohurdugga returns more than an average produce, but the neighbouring districts of Hazareebaugh produce infinitely less. The Returns from the Patna division are believed to be correct. The produce from the date trees at Dacca is so disproportionately large as to render the Return very questionable. The smallness of the Return per 100 trees at Jessore, the principal seat of the date-sugar cultivation, is accounted for by the unproductiveness of the young trees planted since the opening of the home market for East India sugar.

The following is the abstract of the Returns from Bengal.

Abstract of Returns of the Manufacture and Consump

Division.	District.	Cane Produce. Beegah of 14,400 Square Feet.	Cane Produce. Goor in Maunds of 82 lbs. each.	Produce per Beegah. M. S. C.	Date Produce. Trees Number.	Date Produce. Goor in Maunds of 82 lbs. each.	Produce of 100 Trees.	To Goor Pr
								M.
Jessore ...	Jessore*.....	600 0 0	6,585 14 10	10 39 0	25,00,000	3,65,853 26 5	14 25 5½	3,72,43
	24-Pergunnahs	4,000 0 0	39,024 15 9	9 30 3¾	20,000	5,853 26 5	29 10 11½	44,87
	Burdwan	37,512 0 0	4,00,160 39 0	10 26 11½	34,177	1,179 20 7	3 18 0⅔	4,01,34
	Hooghly	18,000 0 0	1,46,341 18 8	8 5 3¼	5,000	1,951 8 12	39 0 0	1,48,29
	Nuddea.....	3,479 0 0	31,323 16 9	9 0 2¼	6,23,823	1,33,456 3 14	21 1 9⅙	1,64,77
	Bancoorah ...	12,000 0 0	1,17,073 6 13	9 30 3¾	...	...	...	1,17,07
	Baraset	4,000 0 0	15,609 30 4	3 36 1½	6,00,000	1,17,073 6 13	19 20 7½	1,32,68
	Total	79,591 0 0	7,56,118 21 5	...	37,83,000	6,25,367 12 8	...	13,81,48
Bhaugul-pore.	Bhaugulpore...	16,875 0 0	51,219 20 7	3 1 8	4,00,000	...	...	51,21
	Dinajpore	30,000 0 0	2,92,682 37 11	9 30 3¾	700	...	...	2,92,68
	Monghyr	20,986 0 0	1,01,560 39 0	4 33 9¼	2,00,000	...	...	1,01,56
	Poorneah	33,750 0 0	1,95,121 38 0	5 31 4	2,500	...	...	1,95,13
	Tirhoot	52,813 0 0	7,80,487 32 3	14 31 2	2,00,000	...	...	7,80,48
	Maldah	...	...	...	Unknown	...	...	.
	Total	1,54,424 0 0	14,21,073 7 5	...	8,03,200	...	...	14,21,07
Cuttack ...	Cuttack.....	1,543 7 1	10,511 35 6	6 33 2	...	...	...	10,51
	Balasore	2,800 6 14	27,808 23 6	9 37 4	11,615	25 24 6	0 8 14⅕	27,83
	Midnapore	32,701 5 15	3,70,103 14 10	11 12 11¼	...	...	...	3,70,10
	Koordah	4,343 4 12	11,988 24 6	2 31 11¼	33,048	...	...	11,98
	Total	41,388 4 10	4,20,412, 17 12	...	44,663	25 24 6	...	4,20,43
Moorshed-abad.	Moorshedabad	1,818 5 8	20,580 9 12	11 15 0¼	30,394	7,488 23 7	24 26 3 1/10	28,06
	Bagoorah	12,000 0 0	1,75,609 30 4	14 25 5¾	...	...	...	1,75,60
	Rungpore	19,403 0 0	86,764 0 15	4 4 15¼	20	...	...	86,76
	Rajshahye.....	4,000 0 0	50,585 14 10	12 25 13½	*	...	...	50,58
	Pubna	5,000 0 0	97,560 39 0	19 20 7¾	14,000	3,414 25 5	24 15 9¾	1,00,97
	Beerbhoom ...	10,000 0 0	97,560 39 0	9 30 5¾	...	...	...	97,56
	Total	52,221 5 8	5,28,661 13 9	...	44,414	10,903 7 12	...	5,39,56
Dacca	Dacca.....	27,000 0 0	98,475 0 0	3 25 14¼	5,000	2,514 0 0	50 11 3¼	1,00,98
	Furreedpore...	10,237 0 0	1,27,341 0 0	12 17 9	15,01,000	3,66,098 0 0	24 15 9¾	4,93,43
	Mymensing ...	6,994 0 0	44,854 0 0	6 16 8½	...	...	...	44,85
	Sylhet	13,157 0 0	1,75,612 0 0	13 13 4⅓	10	...	...	1,75,61
	Backergunge..	25,000 0 0	1,17,074 0 0	4 27 4¼	50,000	6,342 0 0	12 27 5¾	1,23,41
	Cachar	1,200 0 0	2,342 0 0	1 38 1	...	...	...	2,34
	Total	83,588 0 0	5,65,698 0 0	...	15,56,010	3,74,954 0 0	...	9,40,65
Patna	Shahabad	41,593 15 0	6,43,902 17 9	15 19 3¾	...	...	...	6,43,90
	Patna.....	22,687 10 0	4,09,756 3 14	18 28 7	...	...	...	4,09,7
	Behar.....	47,265 12 8	8,53,658 21 7	18 2 7⅓	...	...	...	8,53,65
	Sarun.....	51,046 17 8	7,21,951 1 10	14 5 4¼	...	...	...	7,21,95
	Total	1,62,593 15 0	26,29,268 14 8	...	...	...	...	26,29,26
Assam	No return	...	...	...	...	...	...	.
Arracan...	Akyab	74 7 4	248 0 0	3 13 6¾	...	...	...	2
	Aeng	1 5 3	...	...	...	...	...	.
	Ramree	9 9 1	...	...	...	...	...	.
	Sandoway	605 0 0	5,924 0 0	9 31 10½	...	...	...	5,9
	Total	690 1 8	6,172 0 0	...	...	...	...	6,1
Hazaree-baugh.	Hazareebaugh	51,979 10 0	1,78,027 12 11	3 16 15¾	1,975	...	...	1,78,0
	Lohurdugga ...	500 0 0	7,317 2 15	14 25 5¾	300	...	...	7,3
	Maunbhoom...	4,370 0 0	24,585 14 10	5 25 0½	1,028	...	...	24,58
	Total	56,849 10 0	2,09,929 30 4	...	3,303	...	...	2,09,9
Chitta-gong.	Chittagong.....	7,392 0 0	60,097 22 7	8 5 4½	1,00,000	12,195 4 14	12 7 12⅛	72,2
	Tipperah	33,333 6 10	1,46,341 9 4	4 15 9¾	...	...	...	1,46,3
	Bullooah	...	...	...	56,000	14,000 0 0	25 0 0	14,0
	Total	40,725 6 10	2,06,438 31 11	...	1,56,000	26,195 4 14	...	2,32,6
Grand Total	9 Div. exclusive of Assam	6,72,071 3 4	67,43,772 16 6	...	63,90,590	10,57,415 9 8	...	77,81,2
					9,37,278	The juice of which is reserved		
					73,27,868			

Sugar, Goor, &c., in the Bengal Division.

ion.	Consumption. Rate per Head.	Goor in Maunds of 82 lbs. each.	Remains for Export.	Average Produce from Cane per Beegah in each Division.	Remarks.
			M. S. C.	M. S. C.	
744	About 4 Seers 14 Chs. of 82 lbs. to a Maund in each District.	46,688 11 11			* Jessore and Furreedpore are the chief fields for the production of Date Sugar in the Bengal province, but the proportion of produce given is so much below known experience that there is reason to suppose that the number of trees here shown include a large proportion planted since the opening of the Sugar Market at home and which are still unproductive.
000		35,121 38 0			
152		2,26,116 3 14			
840		1,85,468 11 11			
736		36,431 8 12			
000		58,536 28 4			
000		63,658 21 7			
472	.....	6,52,021 3 11	7,29,464 30 2	†9 26 0	† Cane—Date being 16 Mds. 21 Srs. 4 Chs. per 100 trees.
000	9¾ Seers of ditto	4,87,804 35 2			
000	3 „ of ditto	87,804 35 1			
000	9¾ „ of ditto	1,95,121 38 0			
000	1 „ of ditto	39,024 15 9			
000	10 „ of ditto	5,85,365 34 2			
000	3 „ of ditto	‡29,268 10 7			‡ This must be all imported, but chiefly from districts of the same division.
000	6 Seers of 80 lbs. per Md.	¶14,24,390 8 5	None	9 8 3	¶ The consumption exceeds the produce by 3,317 Mds. 1 Sr.
000	2½ Seers of 80 lbs.	§ 48,875 30 3			§ The imports are from the Madras Presidency, the Tributary Mehals, &c.
395	7½ „ of 82 lbs. per Md.	‖1,04,324 2 8			‖ Sugar from the South, and sugar-candy, etc., from the North, have ready sale.
328	16 „ „ „	2,67,455 36 9			The rates of consumption are taken in the average of the other districts, the Collector not having supplied it in his statement.
160	7 S. 10 C. of 80 lbs. per Md.	1,03,434 10 12			
883	7½ Seers of 82 lbs.	5,24,090 0 0	None	10 6 5	The consumption exceeds the produce by Mds. 1,03,651 37 14.
000	2 S. 5 C. 17 G. of 80 lbs.	60,305 18 8			
000	2 0 0 ditto	43,902 17 9			
000	0 11 5 ditto	44,258 9 4			
000	9 0 0 ditto	1,47,292 27 5			* There are many trees about Naldore, Pooteah, etc., but the juice is not made into Goor.
000	5 0 0 ditto	73,170 29 4			
876	1 14 3 ditto	48,780 19 8			
876	2 8 0 of 80 lbs.	4,17,710 1 6	1,21,854 19 15	†10 4 5½	† Date yielding 24 Mds. 22 Srs. 4 Chs. per 100 trees.
000	10 Seers	1,46,340 0 0			
000	12 „	2,50,990 0 0			
000	1 Seer 5½ Chittacks	48,508 0 0			
000	15 Seers 6 „	1,46,340 0 0			
800	5 „	89,486 0 0			
nted	.....	4,684 0 0			
800	6¾ Seers	6,86,348 0 0	2,54,304 0 0	6¾ Mds.	
000	.....	3,12,195 4 14			
000	.....	2,04,878 1 15			
000	.....	4,26,829 10 12			
000	.....	3,31,707 12 10			
000	7 Seers 5 Chs. of 82 lbs.	12,75,609 30 3	13,53,658 24 5	16 6 13	
	.....	...	...	...	The only export is 3 to 400 Mds. from a factory.
urn	1 Seer each for Mughs and	10,825 0 0			
o	Burmahs	3,171 0 0			
o	6 Seers for Natives.	2,082 0 0			
o	12 „ for Bengallees.	1,175 0 0			
	.....	17,253 0 0	None	...	The consumption exceeds the produce by Mds. 11,081.
244	20 Seers 6 Chs. of 80 lbs.	1,78,027 12 11			
000	1 Seer ditto	11,707 11 7			
000	0 Seer 10 Chs. ditto	9,756 4 0			
244	5 Seers 6 Chs. of 82 lbs.	1,99,490 28 2	10,439 2 2	3 27 11	
000	5 Seers 1 Ch. of 80 lbs.	99,609 30 4			
950	9 „ ditto	1,77,257 12 11			
000	9 lbs.	64,000 0 0			
950	5 Seers 10 Chs. of 82 lbs.	3,40,867 2 15	None	*5 2 12	* Date giving 16 M. 31 S. 10 C. per 100 trees. The consumption exceeds the produce by Mds. 1,08,2 3 6 6.
7225	5 Seers 12½ Chs. of 82 lbs.	55,37,779 34 10	22,43,437 30 10	10 1 5¾	Date yielding 16 M. 9 S. 5 C. per 100 trees, the rate in Jessore being 14 M. 25 S. 5 C., and in Furreedpore 24 M. 15 S. 9¾ C.

kicating liquor and not manufactured into Goor.

From the above Return it is seen that under the Bengal Government 672,071 beegahs, or about 224,027 acres, were under sugar-cane cultivation, producing 4,937,404 cwt. of goor, or 82,290 tons of sugar; and 6,390,590 date trees produced 759,558 cwt. of goor, or 12,659$\frac{1}{3}$ tons of sugar, but owing to the average home consumption of nearly 12 lbs., (11$\frac{625}{700}$) per head of goor, equal to 67,577$\frac{1}{2}$ tons of sugar, the quantity remaining for export amounted only to 1,642,320 cwt. of goor, or 27,372 tons of sugar.

North-Western Provinces.—The next Return in the order of proximity is that from the north-western provinces; it is brought up to June 1848. The Lieutenant-Governor, Mr. Thomson, has for some years past so carefully and perseveringly elaborated the statistics of his Government with a view to obtaining an accurate knowledge of the entire population and resources of the north-western provinces, comprising an area of 43,937,062 acres, and a population of 19,733,742 souls, that although the Return under its different heads is founded upon estimates, there is full assurance that no labour will have been wanting to insure accuracy as far as was practicable. Discrepancies exist in the out-turn per acre of goor in the different districts, but nothing approaching to those in the Bengal Return, the limits being (with two exceptions where the cane is scarcely grown) from 514 lbs. per acre to 3,480 lbs. per acre, the average being 1,410 lbs. of goor, or 4 cwt. 12 lbs. per acre, the average of Bengal being nearly double this amount. One-third of these amounts is the produce of sugar from goor. In the districts of Agra and Azimghur is found the maximum produce per acre, Azimghur being the principal sugar-growing district of the north-western provinces, the adjoining district of Goruckpore being the next greatest, both of them being in the Benares division; Goruckpore and Benares producing respectively 834 lbs. and 750 lbs of goor per acre, while Azimghur is represented to produce 2,790 lbs. per acre.

The estimated number of date trees in the north-western provinces is 258,071, but in the districts of Delhi and Rohtuk only is sugar made from them to a very limited extent; 19,287 trees in Delhi produce 42,240 lbs. of goor, while 451 trees in Rohtuk produce 10,080 lbs. of goor, the average to 100 trees in the first case being 218 lbs., and in the last 2,234 lbs. It is scarcely possible both can be right. The remaining date trees in the north-western provinces are either not tapped at all, or, if tapped, the juice is fermented to make the inebriating liquor Tarree. It is in the estimate of the consumption of goor and sugar per head that the discrepancies are of a character to render its truthfulness more than questionable. In the Dehra Dhoon the inhabitants are represented to consume 96$\frac{3}{4}$ lbs. of goor (32 lbs. sugar) per head per annum, while in Mirzapoor, with a surplus produce, only 6$\frac{1}{2}$ lbs. (2$\frac{1}{6}$ lbs. sugar) per head are consumed, and in the neighbouring district of Benares 64 lbs. (21$\frac{1}{3}$ lbs.) per head are consumed. In the mountains of Kumaon and Gurhwul it may be supposed that less than a pound of goor or sugar may be consumed; but in the thinly peopled valley of the Dehra Dhoon the consumption of 96$\frac{3}{4}$ lbs. per head is improbable. The area under sugar-cane cultivation is estimated at 1,830,538 beegahs or 610,179$\frac{2}{3}$ acres, and the total produce of the north-western provinces is represented to be 10,758,508 maunds of goor of 80 lbs. each, equal to 384,232 tons, or

of sugar 128,077⅓ tons; and as the consumption is estimated at 217,933 tons, or sugar 72,644⅓ tons, there would remain available for exportation 166,299 tons, or of sugar 55,433 tons; but of this little goes to Calcutta, excepting from the Benares division.

The production of goor from the Saugor division, roughly put at 251,134 maunds, is not included, owing to some accidental arithmetical errors.

The third Return is from the Madras Presidency, comprising 21 districts. In this Return, as in the preceding, there are great discrepancies with respect to the produce from a definite superficial area—in some districts called acres, in others potties—in others cawnies, and elsewhere vailies or moodahs, but the whole are in a parallel column converted into beegahs of 14,400 square feet, by a process which is not explained. In the district of Cuddapah as much as 6,564 lbs. of goor (at Madras called jaggery), nearly 3 tons per acre, equal to one ton of sugar, is produced, while in others (setting aside the woody regions of Malabar and Canara), as Tanjore and Trichinopoly, 1,278 lbs. (11⅓ cwt.) and 1,434 lbs. (12¾ cwt.) are respectively produced. The average of the whole produce per beegah is stated to be 12 mds., 37 seers, 2 ch., or about 27¾ cwt. of goor or jaggery, which would give less than half a ton of sugar per acre. The total extent of land under cane cultivation is 84,947 beegahs, or, at three beegahs to the acre, 28,316 acres, producing 11,00,740 maunds of goor, equal to 13,104 tons of sugar. At Madras the palmyra, as well as the cocoa-nut and date tree, are used to produce sugar; the date, however, is only mentioned in Nellore and Cuddapah. The total estimated number of those trees is 6,468,368, but in six of the districts their sap does not appear to be used for the production of sugar, and in several others the Return of jaggery is so small for the number of trees that it is plain the greatest part of the juice is used for conversion into tarree. The chief localities for the production of sugar from the palm tribe are Tinnevelly, which produces more than the half of the total amount, Coimbatore producing one-sixth, and Salem producing about one-fourteenth. The total amount of goor or jaggery from the Return from trees is stated to be 662,218 maunds of 80 lbs. each, equal, therefore, to 23,650½ tons of jaggery, or 7,883½ tons of sugar. Very little reliance can be placed upon the average produce per 100 trees, considering that no statement is made of the number of trees in each district devoted respectively to the production of sugar and tarree. The out-turn in Malabar per 100 trees is put down at 3,092 lbs. of jaggery, while in Rajahmundry, with a million and a half of trees, the return is only 86 lbs. of jaggery per 100 trees. In the estimated consumption per head, there are not those violent contrasts as exhibited in the Return from the north-western provinces. The maximum consumption is 18¾ lbs. in Tinnevelly, and the minimum 1 lb. in Canara, where, from the character of the country and the people, the consumption might be looked for as small. The population of the different districts is not given in the Return, nor the total population under the Madras Government; but in a paper of mine on the Civil Justice of British India, read before the Statistical Society, I had occasion to consider the total population about 13,046,484 souls; dividing this number into the consumption of goor, the result would give about 6 7/13 lbs. of jaggery, or nearly 2⅕ lbs. of sugar per person.

Abstract Statement of the Annual Produce and Consumption of Sugar in the Districts of the North-Western Provinces.

Division.	District.	Estimated cultivation of Cane in Beegahs of 27,225 square feet.	Equal to Beegahs of 14,400 square feet.	Estimated produce of Goor from Cane in maunds of 80 lbs.	Average produce per Beegah of 14,400 square feet. M. S. C.	Estimated number of Date Trees.	Estimated produce of Goor from Date in maunds of 80 lbs.	Average produce per 100 Trees. M. S. C.	Estimated consumption of the District, whether in Sugar, Khaur, Goor, or the Raw Cane itself, reduced into their equivalents in Goor in maunds of 80 lbs.	No. of lbs. per head on which the estimate in Column 10 is based.	Quantity remaining in Districts after consumption.	Quantity consumed in Districts above the produce.
Delhi.	Bhutteeana	....	....	....	....	....	....	....	....	....	....	....
	Paneeput	8,524	16,115	68,718	4 10 9	....	....	....	26,434	8·18	42,284	....
	Hissar	4	7	20	2 34 4	....	....	....	38,857	14·75	....	38,837
	Delhi	10,027	18,957	1,27,141	6 28 4	19,287	528	2 29 6	44,907	11·75	82,234	....
	Rohtuck	4,788	9,052	38,532	4 10 4	451	126	27 37 3	34,719	9·31	3,813	....
	Goorgaon	44	83	229	2 30 5	....	....	....	1,38,097	24·00	....	1,37,868
	Total	23,387	44,214	2,34,640	....	19,738	654	....	2,83,014			
Meerut.	Dehra Dhoon	1,666	3,149	8,600	2 29 $3\frac{3}{4}$	....	....	....	67,725	96·75	....	59,125
	Saharunpore	40,800	77,137	4,22,940	5 19 5	2,097	....	....	2,20,625	36·93	2,02,315	....
	Muzzuffernugur	35,050	66,266	4,78,443	7 8 $12\frac{3}{4}$	....	....	....	1,65,000	30·00	3,13,443	....
	Meerut	46,153	87,220	5,74,194	6 25 $5\frac{1}{3}$	....	....	....	3,73,427	42·25	2,00,767	....
	Boolundshuhur	2,958	5,592	1,620	0 11 $9\frac{1}{3}$	5,620	....	....	2,23,179	40·00	....	2,21,559
	Allyghur	2,614	4,942	17,370	3 20 $9\frac{1}{3}$	9,533	....	....	1,33,056	25·75	....	1,15,686
	Total	1,29,221	2,44,306	15,03,167	....	17,250	....	....	11,83,012			
Kumaon.	Kumaon	198	$374\frac{1}{4}$	167	0 17 $13\frac{3}{4}$	100	....	....	13,000	4·	....	12,833
	Gurhwul	....	....	....	....	....	....	....	1,000	·26	....	1,000
	Total	198	$374\frac{1}{4}$	167		100			14,000			

Rohilkund	Bijnour	39,270	1,12,057	3,72,775	3 27	3¼	....	....	....	1,01,945	24·00	3,10,852	....
	Mooradabad	31,169	58,928	4,77,117	8 3	13¾	2,10,102	....	....	1,50,891	12·81	3,26,226	....
	Budaon	25,852	48,876	2,40,651	4 36	15	....	....	....	1,38,157	36·00	1,02,494	....
	Bareilly	68,007	1,28,575	6,53,593	5 3	5	....	....	....	3,93,687	12·50	2,59,906	....
	Shajehanpore	42,038	79,478	5,41,042	6 32	4¾	....	....	....	1,81,338	20·00	3,59,704	....
	Total	2,26,336	4,27,914	28,85,178	....		2,10,102	....	....	10,26,016			
Agra.	Muttra	3,672	6,942	58,649	8 17	14	1,485	....	....	1,52,336	23·00	....	93,687
	Agra	1,508	2,851	41,591	14 23	8	99	....	....	96,596	9·68	....	55,005
	Furruckabad	12,904	24,396	95,327	3 36	4¾	....	....	....	50,426	5·37	44,901	....
	Mynpoory	6,236	11,789	40,623	3 17	13⅓	....	....	....	32,745	4·50	7,878	....
	Etawah	10,768	20,358	66,199	3 10	1	5,828	....	....	65,941	11·50	251	....
	Total	35,088	66,336	3,02,389	....		7,412	....	....	3,98,051			
Allahabad.	Cawnpore	15,049	28,452	1,03,009	3 24	10	....	....	....	1,64,506	15·37	....	61,497
	Futtehpore	4,411	8,339	37,060	4 17	12	787	....	....	41,323	6·37	....	4,263
	Humeerpore	2,689	5,083	29,048	5 28	9	167	....	....	26,058	12·00	2,990	....
	Calpee	581	1,098	7,318	6 26	9	....	....	....	12,542	6·06	....	5,224
	Banda	172	325	3,000	9 9	3	....	....	....	30,000	....	....	27,000
	Allahabad	7,781	14,710	91,891	6 9	13	300	....	....	1,34,856	15·00	....	42,965
	Total	30,683	58,007	2,71,326	....		1,254	....	....	4,09,285			
Benares.	Goruckpore	2,25,548	4,26,426	14,84,288	3 19	3	....	....	....	5,70,722	19·37	9,13,566	....
	Azimghur	91,770	1,73,502	20,19,087	11 25	7	....	....	....	12,23,511	37·50	7,95,576	....
	Jounpore	37,053	70,053	3,57,764	5 4	4	344	....	....	85,747	10·00	2,72,017	....
	Mirzapore	17,701	33,465	1,82,169	5 17	11	250	....	....	58,500	6·50	1,23,669	....
	Benares	92,376	1,74,648	5,46,728	3 5	3	1,335	....	....	4,40,186	64·00	1,06,542	....
	Ghazeepore	58,866	1,11,293	9,71,605	8 29	3	286	....	....	4,10,088	43·50	5,61,517	....
	Total	5,23,314	9,89,387	55,61,641	5 24	13¾	2,215	....	....	27,88,754			
	Grand Total	9,68,227	18,30,538¼	1,07,58,508	5 35	1⅓	2,58,071	654	....	61,02,132			

Statement showing the Probable Quantity of Land Cultivated for Sugar in the Districts under Probable Quantity of both of

No.	District.	Estimated Cultivation of Cane in Cawnies, &c.		Equal to Beegahs of 14,000 square feet.	Estimated produce of Jaggery from Cane in Maunds.	Equal to Maunds of 80 lbs.	Average produce per Beegah.	Estimated Number of Palmira, &c., Trees.	
					Maunds.	Mds. S. C.	M. S. C.	No.	
1	Ganjam	Acres	4,000	12,000	5,00,000	1,50,000 0 0	12 20 0	Being Zemindary Districts	
2	Vizagapatam	... ...	...	...	2,14,655	67,090 20 8	...	Particulars not known	...
3	Rajahmundry	Potties or Acres	224 1,792	5,376	1,78,000	55,625 0 0	10 13 14	.....	15,00,000
4	Musulipatam	... ...	...	...	None	... ...	...	.....	4,47,533
5	Guntoor	Acres	2	6	24	7 2 3¼	1 7 8	.....	3,58,153
6	Nellore	Goortoo each, equal to 1,37,812½ square fect	1 221/64	12⅘	240	75 0 0	7 0 0	Palmira	1,84,744
								Date	84,139
									2,68,883
7	Bellary	Acres	3,500	10,500	4,20,000	1,31,250 0 0	12 20 0	.....	31,382
8	Cuddapah	Acres	4,694	14,082	12,52,322	3,85,480 14 8½	27 14 14	Palmira	1,42,827
								Date	5,82,291
									7,25,118
9	Kurnool	Acres	81	243	9,720	3,037 30 0	12 20 0	.....	30,000
10	Chingleput	Cawnies	129	516	15,787	4,933 17 8	9 22 6	.....	20,107
11	Salem	Acres	1,083	3,249	86,615	27,067 7 8	8 13 2½	.....	4,00,044
12	North Arcot	Cawnies	4,512	18,048	5,38,705	1,68,345 10 0	9 13 1½	.....	1,49,237
13	South Arcot	Cawnies	1,006	4,024	1,04,415	32,629 27 8	8 4 5⅕	.....	23,643
14	Tanjore	Vallies each equal to 5 Cawnies	101	2,020	34,741	10,795 0 0	5 13 13	Palmira	20,038
								Cocoanut	1,047
									21,085
15	Madura	Cawnies	136	544	13,545	4,245 22 8	7 32 0	.....	1,41,016
16	Trichinopoly	Cawnies	1,027	4,108	74,669	24,584 2 8	5 39 6	Palmira	123
								Cocoanut	51,953
									52,076
17	Tinnevelly	S. C. or Cawnies	62 76	304	12,143	3,794 27 8	12 22 11	.....	17,42,634
18	Coimbatore	Cawnies	621	2,484	18,470	18,470 0 0	7 17 6¾	.....	4,37,087
19	Canara	Moodahs or Acres	2,369	7,107	37,540	10,481 10 0	1 19 0	.....	12,398
20	Malabar	Cawnies	21	84	268	93 32 0	1 4 10	Palmira	36,442
								Cocoanut	36,530
									72,972
21	Madras	Cawnies	60	240	8,749	2,735 12 8	11 11 10		35,000
				84,947⅘	35,20,611	11,00,740 36 11¾			64,68,368

Jaggery from Cane	
Ditto from Palmira, &c.	
Total	
Deduct consumption	
Remainder	

the Madras Presidency, the Probable Quantity of Sugar and Jaggery Produced, and the these Consumed in each District.

Estimated produce of Jaggery from Palmira, &c., in Maunds.	Equal to Maunds of 80 lbs.	Average produce per 100 Trees.	Estimated Consumption of the District, whether in Sugar, Jaggery, or the raw Cane itself, the whole being reduced into their equivalents in Jaggery in maunds, computed at an average of per head during the year on the assumed or ascertained population.	Average Consumption per head.	The rate of Conversion into Maunds.
Maunds.	M. S. C.	M. S. C.	Maunds. lb. oz.	lbs. oz. dr.	lbs. oz. dr.
...	...	...	..... 1,50,000 0 0	8 3 7	At 24 0 0
...	...	...	..... 2,14,655 0 0	5 2 0	25 0 0
56,000	17,500 0 0	1 6 10½	..... 48,000 0 0	1 14 0	The rate is not given in the Collector's Statement.*
10,543¼	3,253 20 0	0 31 5	..... 26,916 15 1 1/16	1 12 0	24 10 15 245 6/7
6,000	1,843 18 0	0 20 9	..... 28,711 10 7 5/8	1 13 10	24 10 15
5,826½			Palmira Jaggery 5,826½ 0 0		
...	...	...	Date ditto..... 6,508½ 0 0	2 8 7½	25 0 0
6,508½			Cane ditto 28,245 5/8 0 0		
12,335	3,854 27 8	1 17 5	..... 40,580 15 10		
None	...	...	..... 2,03,041 6 4	4 8 1	25 0 0
1,186			Palmira Jaggery 1,186 0 0		
} ...	...		Date ditto..... 27,002 0 0	7 2 4	24 10 0
27,002			Cane ditto 3,16,844 0 0		
28,188	8,694 0 0	1 7 15½	..... 3,45,032 0 0		
None	...	...	..... 26,640 0 0	3 0 0	25 0 0
13,235	4,135 37 8	20 22 9¼	..... 64,730 0 0	3 14 8	25 0 0
1,49,998	46,875 0 0	11 28 12	..... 1,72,466 0 0	4 8 0	25 0 0
53,757½	16,800 0 0	11 10 6	..... 1,11,250 0 0	3 2 0	25 0 0
12,206	3,812 20 0	16 6 3	Cane Jaggery 82,015 18 12		
			Palmira ditto 12,206 0 0	3 13 12	25 0 0
			94,221 18 12		
12,295					
} ...	...	...	..... 1,31,773 9 6 7/8	2 14 2	24 10 15½
1,522					
13,817¼	4,263 33 8	20 12 2			
47,720	14,912 20 0	10 23 0	..... 2,42,666 10 15	4 11 0	25 0 0
} 8,680¼	1,462 20 0	2 32 11	..... 83,349 9 6	3 6 12	25 0 0
			Palmira. Cane. In Hindoo Temples and for Maramut 3,572 5 0		
			By Population..... 24,399 2 0	9 6 0	
12,73,314½	3,94,160 25 0	22 24 12	Palmira. In Hindoo Temples and for Maramut 2,777 9 0	...	25 0 0
			By Population..... 7,59,745 22 0	18 12 0	
			7,90,494 13 0		
1,07,449	1,07,449 0 0	24 23 11	..... 92,051 0 0	9 5 6	At 80 lbs., or 3200 Rs weight per Maund.
6,212	1,941 10 0	15 26 0¾	..... 36,824 0 0	1 0 0	The rate is not given in the Collector's Statement.*
35,048½					
} ...	...	...	..... 1,09,866 21 0	2 8 0	28 0 0
45,478¼					
80,526¾	28,184 4 0	38 26 7			
9,843½	3,075 37 8	8 31 5½	..... 2,63,513 11 8	14 0 4	The rate is not given in the Collector's Statement*.
18,89,826	6,62,218 33 0		32,76,783 16 7 11/16		

35,20,611	11,00,740 36 11¾
18,89,826	6,62,218 33 0
54,10,437	17,62,959 29 11¾
32,76,783	10,67,720 0 0
21,33,654	6,95,23 29 11¾

* Assumed at 25 lbs. per Maund.

The total produce of jaggery in the Madras Presidency is represented to be 1,762,959 maunds of jaggery of 80 lbs. each, equal to 20,987½ tons of sugar, and the consumption is 1,067,720 maunds, or 12,711 tons of sugar, leaving available for export 695,239 maunds of jaggery, or 8,276½ tons of sugar.

Bombay.—The fourth Return is that from the Bombay Presidency, and is brought up to April 1848; it comprises only an analysis of the Returns from the different collectorates, and does not enter into any details. The various discrepancies which no donbt exist in the out-turn per acre, the produce per 100 date trees, and the consumption per head in the different Zillahs or districts is not in view, and comment upon them, therefore, is prevented. The Return, however, has no more claim to absolute accuracy than the preceding; for the land under cane cultivation is "estimated" as is the number of date-trees, and it contributes little more information than to show that the quantity of goor or sugar consumed within the Bombay presidency considerably exceeds the quantity raised within its territory, and that for the present, at least, Bombay cannot contribute to the consumption of sugar in Great Britain; although, from my personal knowledge of the lands under Bombay, neither in the quality of the soil, its availability for cultivation, the means of irrigation, or the character of the cane (of which there are four varieties), or the average industry and skill of the people, is there any insuperable impediment to there being at a future time a surplus product of sugar for exportation. I have shown in my examination before Lord George Bentinck's Sugar and Coffee Committee of the House of Commons, that a careful cultivator has ample profit upon cane cultivation, even under the former discriminating assessments of field and garden cultivation, and as these assessments have lately been more nearly assimilated and the assessments generally lowered, the advantage to the farmer of cane cultivation would seem to be increased rather than deteriorated. Nevertheless Bombay long has imported, and still continues to import large quantities of sugar for home consumption, beyond the quantity in transit from Java, Siam, and the eastern islands, intended for the markets of the Persian Gulf and Red Sea.

The Return estimates the land in the Bombay presidency under cane cultivation as low as 25,782 acres, producing 6,52,311 maunds of 80 lbs. each of goor, nearly equal to 7,765⅓ tons of sugar, averaging somewhat more than 6 cwt. per acre, which is two-thirds less than the average out-turn per acre in the West Indies, which is represented to be one ton. The consumption per head is given in the Bombay Return at 8 lbs., but upon what authority is not stated. The total consumption is stated to be 7,61,779 maunds of goor, or 9,069 tons of sugar; being 1,296 tons of sugar in excess of the quantity produced. I should consider the quantity produced and the quantity consumed very considerably greater than is represented in the figures of the Bombay Return, the opinion being based upon the Returns from the other Governments, as well as upon my knowledge of the habits of the people.

Date, cocoa-nut, and palm trees are very numerous under the Bombay presidency on the line of coast from Surat to Malwan and Goa. 250,063 trees only are included in the Return, and as only 216

* Maunds 1,09,252 consumed in excess of the produce in the Bombay Presidency.

maunds of goor are said to be produced from them, the trees are evidently devoted to the more lucrative object of obtaining tarree.

Return of Goor Produced and Consumed within the Territory subject to the Presidency of Bombay.

District.	Estimated cultivation of Cane in Acres of 4,840 square yards each.	Equal to Beegahs of 14,400 square feet.	Estimated produce of Goor from Cane in maunds of 82⅔ lbs. each.	Equal to Maunds of 80 lbs.	Average Produce per Beegah.	Estimated number of Date Trees.	Estimated Produce of Goor from Dates in Maunds of 80 lbs.	Total Cane and Date Goor in Maunds of 80 lbs. each.	Estimated Consumption of the District, whether in Sugar, Khaur, Goor, or the Raw Cane itself, the whole being reduced into their equivalents in Goor in Maunds of 82⅔ lbs., each computed at an average of 4 seers, or 8 lbs., per head during the year on the assumed or ascertained Population.	Reduced to Maunds of 80 lbs.
In the Zillahs subordinate to the Bombay Presidency	25,782	77,346	6,34,192	6,52,811	M. S. C. 8 17 5½	2,50,063	216 Mds.	6,52,527 Mds.	7,40,497	7,61,779

The Return contains similar details of the cultivation, &c., of the staple in certain native States adjacent to the Bombay presidency; but as these are foreign to the object of the inquiry of the Chamber of Commerce, it is not deemed necessary either to notice or analyze them here.

Abstract Statement of the Cultivation of Lands with Cane, &c., for the purposes of Goor and Sugar, within the Presidencies of Bengal, Madras, and Bombay.

Bengal Division.									North-Western Provinces.								
1.	2.	3.	4.	5.	6.	7.	8.	9.	1.	2.	3.	4.	5.	6	7.	8.	9.
Total Area of Lands cultivated for Cane Sugar computed at Beegahs of 14,400 square feet each.	Produce of Cane Goor in Maunds.	Average per Beegah.	Total Number of Date Trees.	Produce from Date Trees.	Average Produce per 100 Trees.	Total Produce of Cane and Date Goor.	Total Consumption.	Available for Export.	Total Area of Lands cultivated for Cane Sugar computed at Beegahs of 14,400 square feet.	Produce of Cane Goor in Maunds.	Average per Beegah.	Total Number of Date Trees.	Produce from Date Trees.	Average Produce per 100 Trees.	Total Produce of Cane and Date Goor.	Total Consumption.	Remaining unappropriated.
6,72,071	67,43,772 of 82 lbs., or 69,12,366 of 80 lbs.	M. S. C. 10 1 5⅘ of 82 lbs.	63,90,590	10,37,445 of 82 lbs., or 10,63,381 of 80 lbs.	M. S. C. 16 9 5⅘ of 82 lbs.	77,81,217 of 82 lbs., or 79,75,747 of 80 lbs.	55,37,780 of 82 lbs., or 56,76,324½ of 80 lbs.	22,43,437 of 82 lbs., or 22,99,523 of 80 lbs.	18,30,538	1,07,58,508	M. S. C. 5 35 1⅕	2,58,071	654 Mds.	M. S. C. 3 12 12 of 19,738 trees.	1,07,59,162 Mds.	61,02,132 Mds.	46,57,030 Mds.

Madras Presidency.									Bombay Presidency.								
1.	2.	3.	4.	5.	6.	7.	8.	9.	1.	2.	3.	4.	5.	6.	7.	8.	9.
Total Area of Lands cultivated for Cane Sugar computed at Beegahs of 14,400 square feet.	Produce of Cane in Maunds of 80 lbs.	Average per Beegah.	Total Number of Date, Palmira, and Cocoanut Trees.	Produce from Date, &c., Trees in Maunds.	Average Produce per 100 Trees.	Total Produce in Maunds of Cane, Date, Palmira, and Cocoanut Trees.	Total Consumption in Maunds.	Available for Export.	Total Area of Lands cultivated for the purpose of Cane Sugar converted into Bengal Beegahs of 14,400 square feet each.	Produce of Cane in Maunds of 80 lbs.	Average per Beegah.	Total Number of Date, Palmira, and Cocoanut Trees.	Produce from Date, &c., Trees in Maunds.	Average Produce per 100 Trees.	Total Produce in Maunds of Cane, Date, Palmira, and Cocoanut Trees.	Total Consumption in Maunds.	Available for Export.
84,947⅘	M. S. C. 11,00,740 36 11	M. S. C. 12 37 2	64,68,368	M. S. C. 6,62,218 33 0	M. S. C. 10 9 8	M. S. C. 17,62,959 29 11¾	10,67,720	M. S. C. 6,95,239 29 11¾	77,346	6,52,311	M. S. C. 8 17 5½	2,50,063	216 Mds.	No average is given, because it is probable that a greater part of the date juice is used for other purposes.	6,52,527	7,61,779	...

Analysis.

	Total Area of Lands cultivated with Cane.	Total Produce of Cane and Date Goor in Maunds of 80 lbs.	Total Consumption of Cane and Date Goor in Maunds of 80 lbs.	Remainder.	Reduced to Sugar at 13⅓ Seers to one Maund of Goor.
Bengal Presidency, including the N.W. Provinces	25,02,609	1,87,34,909	1,17,78,356½	69,56,552½	23,18,851
Madras Presidency	84,947	17,62,959	10,67,720	6,95,239	2,31,746⅓
Bombay Presidency	77,346	6,52,527	7,61,779*	....	....
Grand Total	26,64,902	2,11,50,395	1,36,07,855½	76,51,791½	25,50,597

Average Produce of the Soil of Cane Goor in the several Presidencies.

Bengal, per Beegah of 14,400 Square Feet.	N. W. Provinces, per Beegah of 14,400 Square Feet.		Madras, per Beegah of 14,400 Square Feet.	Bombay, per Beegah of 14,400 Square Feet.
		Benares Division		
Mds. S. C.	Mds. S. C.	Mds. S. C.	Mds. S. C.	Mds. S. C.
10 1 5¾	5 35 1⅓	5 24 13¾	12 37 2	8 17 5½

Straits' Settlements.—The Straits' settlements of Prince of Wales' Island, Province Wellesley, Singapore, and Malacca, being dependent upon the East India Company's Government of India, the Governor of these settlements has supplied Returns similar to those furnished from the Indian presidencies. The land under cultivation is estimated, the number of cocoa-nut trees (there not being any date trees in the settlements) used in the production of sugar is estimated, and the population is assumed; with such elements the results can only be approximate and problematical.

The total number of acres under cane cultivation in the three settlements is 4,476 acres, producing 2,28,812 maunds of 82 lbs. each of goor, or 2,792 tons of sugar. In Malacca the sugar-cane is consumed in its natural state, and in the two other settlements the average produce per acre is represented to be, Prince of Wales' Island, 4,566 lbs. or more than two tons of goor per acre, or $13\frac{1}{3}$ cwt. of sugar, while in Singapore it is only 1,740 lbs., or little more than three quarters of a ton per acre, or $5\frac{1}{6}$ cwts. of sugar. The produce from 19,175 cocoanut trees is 16,073 maunds, or 588 tons of goor, or about 196 tons of sugar. At Singapore the cocoanut plantations, which are of great magnitude, are too young to be brought to use at present. The average produce of goor per 100 trees in Prince of Wales' Island is 308 lbs., and in Malacca only 46 lbs. The average consumption of goor per head in the three settlements ranges from $11\frac{1}{4}$ lbs. to $12\frac{1}{3}$ lbs., and these averages are derived from the consumption upon private estates in Prince of Wales' Island and Province Wellesley. The population being assumed at 100,000, the consumption at $11\frac{1}{4}$ lbs. of goor per head is 502 tons of goor, or $167\frac{1}{3}$ tons of sugar, leaving available for export 2,719 tons of sugar annually.

An analysis of the preceding Returns in a tabulated form gives the following results :—

	Acres.	Tons of Sugar.	Date Trees, or Palm.	Tons of Sugar.	Total Sugar.	Consumption	Available for Export.	Consumption of Sugar per head.	Produce per Acre.
					Tons.	Tons.		lbs.	cwt. lbs.
Bengal	224,027	82,290	6,390,590	12,659$\frac{1}{3}$	94,949$\frac{1}{3}$	67,577$\frac{1}{3}$	27,372	3	7 39
N. W. Provinces	610,179$\frac{1}{3}$	128,077$\frac{1}{3}$	258,071	8	128,085$\frac{1}{3}$	72,644$\frac{1}{3}$	55,441	8$\frac{1}{4}$	4 12
Madras	28,316$\frac{1}{3}$	13,104	6,468,368	7,883$\frac{1}{2}$	20,987$\frac{1}{2}$	12,711	8,276$\frac{1}{2}$	2$\frac{1}{5}$	9 26
Bombay	25,782	7,765$\frac{2}{3}$	250,063	7$\frac{3}{4}$	7,773$\frac{1}{2}$	9,069	None.	8	6 2$\frac{3}{4}$
Total	888,304$\frac{1}{3}$	231,237	13,367,092	20,558$\frac{1}{2}$	251,795$\frac{1}{2}$	162,001$\frac{2}{3}$	*91,989$\frac{1}{2}$	...	...
Straits' Settlements ...	4,476$\frac{1}{3}$	2,792	19,175	196	2,988	269	2,719	3$\frac{4}{5}$	10 27

* From this is to be deducted 1296 tons' consumption over production in Bombay, leaving available for export from India 89,793$\frac{1}{2}$ tons of sugar.

No. 1.—*Straits' Settlements.*

Estimated cultivation of Canes in Beegahs of 14,400 square feet each.		Estimated produce of Goor from Canes in maunds of 82 lbs.	Average produce per Beegah.	Estimated Number of Trees producing Goor.		Estimated produce of Goor in maunds of 82 lbs. each.	Average produce per 100 Cocoanut Trees.	Estimated Consumption, whether in Sugar, Khaur, Goor, or the Raw Cane itself, the whole being reduced into their equivalents in Goor, in maunds of 82 lbs. each.
				Cocoanut Trees.	Neepah.			
			Mds. S. C.				Mds. S. C.	
Prince Wales' Island and Province Wellesley	11,864	2,20,640	18 23 6¼	1,500	....	5,684	3 31 9	Assumed Population 1,00,000, at an average consumption of 11¼ lbs. of Goor, gives maunds 13,720.
Singapore	1,152	8,172	7 3 12	The Cocoanut Plantations, of which there are several of considerable magnitude, are not of sufficient age to produce either fruit or Goor to any extent.	Growing wild, number unknown.	....	....	Assumed Population 57,000, at an average of 12 lbs. of Goor each, gives maunds 8,341.
Malacca	413	No Sugar is made from Canes which are all consumed in their raw state.	....	17,675	....	10,389	0 23 8	Assumed Population 52,713, at an average of 12⅓ lbs. of Goor each, gives maunds 7,907.
	13,429	2,28,812	....	19,175	....	16,073	....	

No. 2.—*Return of the Probable Quantity of Land Cultivated for Sugar, and of Sugar and Goor Manufactured and Consumed in the Island of Penang and Province Wellesley.*

Names of Places or Estates in Penang and Province Wellesley.	Estimated cultivation of Cane in Acres of 43,560 square feet each.	Estimated produce of Goor from Cane, in tons of 2,240 lbs. each.	Estimated number of Date Trees.	Estimated produce of Goor from Date, in tons of 2,240 lbs. each.	Estimated Consumption of the Settlement, whether in Sugar, Khaur, Goor, or the Raw Cane itself, the whole being reduced into their equivalents in Goor in tons of 2,240 lbs. each, computed at an average of lbs. 16-782, or of marketable Sugar lbs. 13-585 per head during the year on the assumed or ascertained population.*
Kreean	180	450	There are no Date Trees in these parts, none at least yielding fruit. But Sugar or Goor is manufactured from the produce of the Cocoanut Tree and the Neepah.		$\frac{3}{20}$ for 400 persons on the Estate, under 1 lb a head.
Tuddenham	140	175			$4\frac{1}{2}$ for 400 persons, being above 25 lbs. a head.
Jajawi	366	825			$4\frac{1}{2}$ These 2 estates belong to one proprietor, the number of persons
Val Dor	325	$796\frac{4}{5}$			$2\frac{2}{10}$ is not given. The consumption is quoted at 10 lbs. each.
Tusseh	280	$357\frac{1}{2}$			$1\frac{1}{4}$ for 200 persons, being at the rate of 14 lbs. each.
Looboo Manani	60	$75\frac{1}{2}$			for 450 ditto, at 8 lbs. per head.
Caledonia	170	300			for 415 ditto, at 5 lbs. ditto.
Victoria	320	700			for 500 ditto, at 8 lbs. ditto.
Simpang Ampaty	250	750	,,	,,	
Batu Kawan	206	712			Information cannot be obtained.
Otaheite	170	$428\frac{2}{5}$			
Estates of Europeans, &c., acres	2,467	$5,570\frac{1}{5}$	Tons of Goor from Cane.		
Captain Ferrier's estimate for the Natives, Province Wellesley	1,391	2,506	....	....	$551\frac{3}{20}$ for 59,062 persons, rather short of 21 lbs. a head.
Mr. Gottlieb's ditto of Penang	64	1	At the utmost		—— for 39,721 ditto, at about $6\frac{1}{3}$ lbs. each.
	3,922	8,077			

Total under Cane, &c., acres 3,922, yielding tons 8,077 of Goor, and with an assumed Population of 1,00,000 persons consuming $11\frac{1}{4}$ lbs. of Goor each, as the average of opinions. Total of Goor consumed, assumed to be lbs. 11,25,000, or tons 502 per annum.

* N.B.—This rate is brought out thus:—By No. 1, lbs. $8\frac{1}{2}$ Sugar 6 months' consumption. For the year, lbs. 17, or Goor lbs. 21-25. By No. 2, of Goor lbs. 12-7142, average lbs. 16-982 of Goor, or lbs. 13-585 Sugar.

It is hence seen that 888,304$\frac{1}{3}$ acres are under sugar cultivation in India, producing 231,237 tons of sagar; that 13,367,092 date, palm, and cocoa-nut trees produce 20,558$\frac{1}{2}$ tons of sugar; that the total consumption of sugar in India is 162,001$\frac{2}{3}$ tons; Bombay consuming 1,296 tons more than its own produce; leaving available for exportation from Bengal, the north-western provinces, and Madras, 91,089$\frac{1}{2}$ tons of sugar. The consumption per head averages from 2$\frac{1}{5}$ lbs. at Madras to 8$\frac{1}{2}$ lbs. in the north-western provinces, and the produce per acre ranges from 4 cwt. 12 lbs. in the north-western provinces to 9 cwt. 26 lbs. at Madras.

The Straits' settlements, independently of the above, have 4,476$\frac{1}{3}$ acres under sugar cultivation, producing 2,792 tons of sugar, and the few cocoa-nut trees at present used to extract sugar produce 196 tons. The consumption is reckoned at 269 tons, about 3$\frac{4}{5}$ lbs. per head, leaving available for export 2,719 tons of sugar. The produce per acre exceeds that in India, though falling far short of the West Indies, being 10 cwt. 27 lbs. per acre.

The next consideration is the export trade of sugar from Bengal, which since the equalization of the duties in Great Britain on the colonial and Bengal sugar has rapidly progressed, the average annual value per maund having also gradually increased since 1836-7.

The following table, compiled from Bell's and Wilkinson's Reports of the Exports, commences from the three years previous to the concession first made in favour of the East India Company's territories in Bengal:—

Years.	Exported to Great Britain.	To other Ports.	Total Exports of Sugar and Khaur.	Value.	Average Value per Maund.	Tons.	Price per Ton.
	Mds.	Mds.	Mds.	Sicca Rs.	Rs. A. P.		
1833-34	92,963	1,97,670$\frac{1}{4}$	2,90,363$\frac{1}{4}$	26,08,224	7 15 1$\frac{3}{4}$		
1834-35	1,54,590	2,03,925	3,58,515	27,90,959	7 12 6$\frac{3}{4}$		
1835-36	1,95,587	1,73,173$\frac{3}{4}$	3,68,760$\frac{3}{4}$	28,52,515	7 11 9		
				Co's Rs.			£ s. d.
1836-37	3,64,864	2,52,496	6,17,360$\frac{1}{2}$	51,38,460	8 5 2	22,600	23 3 6
1837-38	5,95,856	2,18,915	8,14,771	67,18,911	8 3 11$\frac{1}{4}$		
1838-39	7,31,838	1,37,269	8,69,107	74,63,088	8 9 4$\frac{7}{5}$		
1839-40	7,32,651	1,11,238	8,43,889	73,60,036	8 11 6$\frac{1}{2}$		
1840-41	17,17,290	67,501$\frac{1}{2}$	17,84,791$\frac{1}{4}$	1,64,68,898	9 3 7$\frac{2}{3}$		
1841-42	14,52,502$\frac{1}{4}$	69,590	15,22,092$\frac{1}{4}$	1,39,16,426	9 2 3$\frac{2}{3}$		
1842-43	15,73,145$\frac{3}{4}$	32,385	16,05,530$\frac{3}{4}$	1,48,35,773	9 3 2$\frac{3}{4}$		
1843-44	15,36,476$\frac{1}{2}$	6,104$\frac{1}{2}$	15,42,581	1,46,04,641	9 7 5$\frac{3}{4}$		
1844-45	15,18,009	21,108$\frac{3}{4}$	15,39,117$\frac{3}{4}$	1,46,91,956	9 8 8$\frac{3}{4}$		
1845-46	18,31,263$\frac{1}{4}$	8,111$\frac{1}{4}$	18,39,374$\frac{1}{2}$	1,78,93,188	9 11 7		
1846-47	16,85,336	29,881$\frac{1}{4}$	17,15,217$\frac{1}{4}$	1,67,98,655	9 12 0$\frac{5}{8}$		
1847-48	16,36,522$\frac{3}{4}$	85,237	17,21,759$\frac{3}{4}$	1,66,28,524	9 10 6$\frac{1}{3}$	63,028$\frac{1}{2}$	26 7 8

"The privilege of importing into the United Kingdom sugar, the produce of Bengal, at the lower rate of duty, came into operation here in December 1836, by Act XXXII* of the Government of India. A gradual increase in the exports is perceptible from that year, though 1837-38 was visited by a commercial crisis in England. The very sudden rise in the export, which took place in 1840-41, is to be accounted for by the material reduction in the production of the

* Extended to Madras by Act XV of 1839.

article in the West India colonies, in consequence of the Emancipation Law which had its effect there in 1838, a circumstance which led to an unusual high price for all descriptions in England during the year 1840. The supplies fell off again till the further reduction of the duty from 24*s.* to 14*s.* on Bengal in common with the colonial Muscavado sorts under Act 8 and 9 Victoria, cap. 5, passed in April 1845, in which year the export appears to have been the largest in the list. In 1846, the distinction which before existed between foreign and colonial sugars was brought within a narrower compass, and there was a scarcity of grain in Great Britain during that and the preceding year. These causes, combined with the late commercial disasters, and consequent scarcity of money, seem to have in some measure checked the shipments of this staple, as will be apparent from a reference to the preceding table, but not to such an extent as under the above unfavourable circumstances might have been expected.

"It has been already observed that in various districts in Eastern Bengal there are thousands of date trees which are still unbearing; the production of which may at no remote period materially add to the present aggregate production; and it is an ascertained fact that the cane cultivation in Lower Bengal is fast improving from the Otaheite (known by the natives as Bombay) cane, which has been of late years substituted both for the sake of its quality and yield."

I am indebted to my friend Mr. Porter, of the Board of Trade, for the following valuable table, which enables me to contrast the consumption of sugar per person in England and India.

Imports of Sugar into Great Britain.

Years.	Quantity of Sugar retained for Consumption.	Molasses equivalent to Sugar taken for Consumption.	Sugar and Molasses retained for Consumption.	Average price of Sugar per "London Gazette."		Average price of Sugar including the Duty.		Average Consumption of each Person.
	cwts.	cwts.	cwts.	*s.*	*d.*	*s.*	*d.*	lbs.
1830.....	4,147,350	126,595	4,273,945	25	0¼	49	0¼	19·94
1831.....	4,233,509	130,734	4,364,243	23	8	47	8	20·11
1832.....	3,974,627	212,508	4,187,135	28	8¼	52	8¼	19·
1833.....	3,780,138	241,457	4,021,595	29	7½	53	7½	17·99
1834.....	4,013,919	190,492	4,204,411	29	2½	53	2½	18·31
1835.....	4,116,153	233,429	4,349,582	33	9½	57	9½	19·21
1836.....	3,676,496	246,405	3,922,901	40	9	64	9	16·58
1837.....	4,127,446	222,007	4,349,453	34	5	58	5	18·83
1838.....	4,089,453	197,329	4,286,782	33	7	57	7	18·38
1839.....	3,847,629	199,987	4,047,616	39	4½	63	4½	17·18
1840.....	3,606,038	158,672	3,764,710	48	7¾	73	10¼	15·28
1841.....	4,057,628	150,696	4,208,328	38	3¼	63	5¾	17·65
1842.....	3,868,466	199,865	4,068,331	37	2½	62	5	16·76
1843.....	4,028,307	168,558	4,196,865	33	11½	59	2	17·11
1844.....	4,129,443	230,030	4,359,473	33	5	58	7½	17·59
1845.....	4,856,604	234,700	5,091,304	32	9	46	9	20·33
1846.....	5,238,656	218,498	5,457,154	34	5	48	5	21·57
1847.....	5,805,638	239,483	6,045,121	28	3	42	3	23·66
1848.....	6,208,830	238,894	6,447,724	23	7¼	36	7¼	24·98

Consequent upon the above analysis are some considerations relating to the very small consumption of sugar per head in India; whether originating in the poverty of the people, the cost of production, or the enhanced price resulting from the great demand for exportation.

The following tables, I, II, and III, show the produce and cost of goor and sugar in the provinces of Behar and Benares and in Lower Bengal. In Table I, 10 beegahs, or $3\frac{1}{3}$ acres, cultivated alternate years with cane at a rent of 5rs. a beegah, or 30*s.* an acre (six times the ordinary assessment). The cost of cultivation is 135rs., the produce 150 maunds of goor at 2 rupees per maund, or 10 lbs. for a shilling; giving a profit upon the goor of 165rs. or $122\frac{1}{4}$ per cwt. upon the outlay. Now as the average consumption in Bengal is 9 lbs. of goor per head, the annual expense is less than a shilling laid out in goor. Assuming the highest average consumption of $24\frac{3}{4}$ lbs. of goor per head in the north-western provinces, the annual outlay would be less than half-a-crown, or $2\frac{1}{4}d.$ per month out of the lowest rate of wages of 72*d.* per mensem. The very great demand for export, therefore, although it necessarily enhances home prices, yet does not appear to do so to the extent to account for the small consumption of goor per person, for it is in this state the produce of the cane is almost wholly consumed by the natives of India.

Carrying on the process, in Table I, of converting goor into sugar, it is shown that the cost is a rupee a maund, or 50 per cent. on the price of the goor, and the return in *three* qualities of sugar and molasses on 450rs. outlay is 500rs., giving a further profit of 50rs., or 11 and a fraction per cent. The highest quality of this sugar selling at 10rs. per maund, 28*l.* per ton, or 3*d.* per lb. This is a somewhat better price ($2\frac{7}{10}d.$ per pound,) than the West Indians get. Supposing then, sugar to sell at 25*l.* per ton, Table I. shows that a capital of 285rs., including cost of cultivation, gives a profit of 215rs. upon $3\frac{1}{3}$ acres of land.

Table II shows the cost and selling prices of goor and three qualities of sugar, the growth of Lower Bengal, to the importer at Calcutta, including transit charges and dryage; but there is a discrepancy between this table and the preceding, for the Calcutta merchant is represented as buying the first quality of sugar at 8rs. per maund (16*s.*), and selling it at $8\frac{1}{2}$rs. or 17*s.*, whereas in Berar the manufacturer of goor into sugar is represented as obtaining 10rs. per maund for the first quality.

Table III gives the cost and selling prices of date goor and sugar in Lower Bengal; the first quality of this sugar is inferior to that from the cane, and costs the merchant 6rs. per maund (12*s.*), he selling it for $6\frac{1}{2}$ per maund (13*s.*) It is used for compounding with cane sugars for refinery purposes.

The following is the native process of manufacturing sugar in the Behar and Benares provinces:—

A quantity of goor, say 5 to 10 maunds, is put in an earthen vessel mixed with one-third of water;—being strained, it is put in a larger receptacle to settle. The clarified part of the goor and the water are placed in an iron boiler. When the goor becomes sticky it is removed to another vessel; being cooled, it is put in a third, and

when settled, the cork at the bottom of the earthen pot is removed and the molasses with the impurities are allowed to run out and collect in a large hole made for that purpose. The goor gets grainy and swells up. Moss* is then applied to the goor for clarifying it;—the molasses are drained off again for three days, after which the moss is taken off, and the clarified part, which then becomes white and swollen to a height of about 1½ to 2 inches on the top of the mass of sugar, is collected, and this process of clarifying is continued till 15 to 20 maunds are collected together, when the whole quantity is spread in the sun on a piece of cloth and trampled upon by Coolies employed for the purpose; by that means the large and thick grains, which before were of a yellowish colour, are reduced to the size of smaller crystals, and the whole quantity becomes of an uniform white colour.

TABLE I.

Assumed Cost and Selling Prices of Sugar in the Provinces of Behar and Benares, during seasons of moderate growth and demand.

	Rs.	
Ground rent at 5 Rupees per Beegah for 10 Beegahs, cultivated in alternate years, 10 more lying fallow	100	
Labour, cuttings, and irrigation	35	
		135
Produce of Goor—150 Maunds of 80 lbs. at 2 Rupees per Maund	....	300
Profit	....	165
MANUFACTURE OF SUGAR.		
Cost of Goor	300	
Charges for Manufacturing Sugar	150	
		450
PRODUCE. Mds. Srs.		
1st Quality ..... 37 20 at 10 Rupees per Maund	375	
2nd Ditto ..... 7 20 at 8 „ „	60	
3rd Ditto ..... 5 0 at 6 „ „	30	
Molasses ..... 70 0 at 8 Annas „	35	
		500
Profit	....	50

These provinces, including the districts in the Patna division, produce the largest quantities of sugar, the greater part of which is sent down to Calcutta for the English market. It is to be remarked that upon an invested capital of only 285 rupees, including the cost of cultivating 10 beegahs of land, or 20 beegahs in alternate years, and the manufacture of the produce thereof, an actual profit of 215 rupees would accrue to the grower at the rates assumed above. The prices of this season (1848) when they have ruled exceedingly lower than they were known of late years, form no criterion for judging of the average value of this staple.

* Sheealla.

TABLE II.

Assumed Cost and Selling Prices of Cane Goor, Khaur, Dullooa, and Sugar, the growth of Lower Bengal, in seasons of moderate crop and demand.

Quality.	Goor.		Khaur.		*Dullooa.		Sugar.		Remarks.
	Cost.	Selling Price.	Cost.	Selling Price.	Cost.	Selling Price.	Cost.	Selling Price.	
1st Quality	2	2–8	†4–4	4–8	†7	7–8	†8	8–8 to 9	The Sugars refined by European process at the several factories in the vicinity of Calcutta, Dhoba Factory, and Tirhoot, are chiefly exported to England on the proprietor's account, and are seldom brought to the market for sale here.
2nd Ditto..	1–12	2	4	4–4	6–8	7	7–8	8 to 8–4	
3rd Ditto..	...	...	3–12	4	6	6–8	...	...	
4th Ditto..	...	...	3–8	3–12	5–8	9	...	...	

TABLE III.

Assumed Cost and Selling Price of Date Goor, Khaur, Dullooa, and Sugar, the growth of Lower Bengal, in seasons of moderate produce and demand.

Quality.	Goor.		Khaur.		Dullooa.		Sugar, called Gurputteeah.		Remarks.
	Cost.	Selling Price.	Cost.	Selling Price.	Cost.	Selling Price.	Cost.	Selling Price.	
1st Quality	2	2–6	3–4	3–10	5–8	6	6	6–8 to 6–10	Date Sugar is used at the factories here and exported chiefly for compounding with Cane Sugar for refining purposes.
2nd Ditto..	1–12	2	3	3–4	5	5–4	5–12	6–4	
3rd Ditto..	1–10	1–14	2–14	3–2	4–12	5	5–8	6	
4th Ditto..	1–8	1–10	2–12	3	4–8	4–12	5–4	5–8	

The Calcutta export table shows that since the equalization of the duties in 1836, the export of sugar has risen from 6,17,360 maunds to 17,21,759 maunds in 1847-8, and the value from 51,38,460 rs. (513,846*l.*) to 1,6628,524 rs. (1,662,852*l.*) in 1847-8, and that the increased demand had raised the price of sugar in the Calcutta market from 8 rs. 5 a. 2 p. per maund to 9 rs. 10 a. $6\frac{1}{2}$ p. per maund in 1847-8; being a difference of nearly 16 per cent. What effect the admission of slave-grown sugar into Great Britain may have upon the production and export of sugar from India remains to be seen. Table I. shows that a ton of sugar in Berar can be raised at the cost of 15*l.* 19*s.*, paying six times the ordinary assessment upon the land in the north-western provinces. The "Times" of the — August, 1849, has the following article on the relative cost of slave and free labour sugar :—

"In the old days of West Indian prosperity, when planters suffered no penalties save those of surfeits and extravagance, the cost of an able-bodied slave was, we believe, about 80*l.* At this figure he was expected to be some 25 years of age, and to have 10 years' honest work in him, and the number of his working days throughout the year was usually set at 310 out of the 365. This was not a very

* Dullooa is a medium quality between Khaur and Sugar.

† These are prices which stand the importer at Calcutta, including transit charges and dryage.

rigorous proportion, perhaps; but, then, for a proportion of this period he was worked at 'crop time' hours, and during the rest of the year a respectable 12 hours' labour was expected from him. This, to be sure, is no more than what an English labourer gives—from 6 to 6—allowing for meal-time in both cases, nor was the work always very laborious, but still the total amount performed was considerable. Its results were estimated by some such calculations as the following:—A good healthy slave would cultivate two acres annually, and an acre was ordinarily expected to produce about one ton of sugar and a due proportion of rum, that is, about 60 gallons to a ton. Or, putting the estimate in another form, the estate was considered to be doing pretty well if one hogshead of sugar of 17 cwt., with its proportion of rum, was produced for every head of slave stock upon it, reckoning old and young together. The cost, then, of an able-bodied slave would have stood thus against his earnings:—

	£	s.	d.
10 per cent. on his original price	8	0	0
Food, clothing, &c. (almost exactly that of a Russian soldier)	5	0	0
Depreciation and mortality on 10 years at 10 per cent.	8	0	0
Total annual cost	21	0	0
2 tons of sugar, say	50	0	0
120 gallons of rum	18	0	0
Total annual earnings	68	0	0
	21	0	0
Profit	47	0	0

"Now, when the experiment is made with 'free labour,' that is, as it should be always remembered, with such labour as an emancipated negro can be brought to give in a country where he has no natural or artificial wants to supply, the results found are these:—Say that he works the same number of days, 310, yet the average duration of his labour will certainly not be above 6 or 8 hours a-day, and the total average produce cannot be calculated at more than one-half that of the slave. So that if his wage—one shilling a-day—be compared with his work, the following will be the conclusion:—

	£	s.	d.
One ton of sugar	25	0	0
60 gallons of rum	9	0	0
	34	0	0
Deduct wages, 310 days	15	10	0
	18	10	0
Profit of slave over free labour	28	10	0

"These calculations indicate the true point of our planters' disabilities, viz., the deficiency of effective labour. The annual cost of a slave exceeds by more than 20 per cent. the wages of a free labourer, but so ineffective is the work of the latter that this advantage is soon neutralized, and the difference rises above the compensation of any

moderate differential duty. The great object, then, if we would still retain sugar at its present reasonable rates, is to furnish our own plantations with better supplies of labour, and seek out, at the same time, fresh fields of action, where this indispensable auxiliary to success is readily procurable. We have now a statement before us containing proposals for establishing a sugar plantation in the British settlement of Malacca, the soil and climate of which are said to be eminently favourable to such culture, while the all-important commodity of labour is poured in abundantly by the Chinese immigrations from Singapore. The Straits' Government, it is stated, has granted liberal tracts of land rent-free for five years, for the purposes of the undertaking, and has expressed every desire to promote it by encouragement and aid. A Chinese 'contract labourer' is estimated to be worth, wage and work being compared together, fully 12*l.* 5*s.* per annum more than an able-bodied negro slave, and the calculations of the proprietors are intended to prove that the Brazilian and Cuban planters could be fairly undersold by the produce of our own possessions raised by free labour. We pronounce no opinion upon the soundness of these conclusions, but it is only too clear that if we do not by some means obviate what will soon become the monopoly of slaveholding sugar-growers, we shall expiate our injustice to our own colonists in a very appropriate but extremely unpleasant manner."

If these calculations be correct, a slave, at a cost of 21*l.* annually, produced two tons of sugar at 10*l.* 10*s.* per ton, besides molasses. Unless, therefore, the cost of production in India can be reduced, slave-grown sugar will affect the exports from India. But I cannot conceive that slave labour really can supersede the free labour of India; obtainable to any extent at 6*s.* per month, all charges included: and land to any extent at 2*s.* 6*d.* to 5*s.* an acre, of which land, in the sugar-growing district of Goruckpore alone, there are 1,599,586 acres, and in the whole of the north-western provinces above ten millions of cultivable acres at present unappropriated. In so favourable a light is Goruckpore viewed for sugar cultivation, that the following paragraph appears in the Government statement:—

"The cane cultivation and the manufacture of sugar are steadily increasing in the district of Goruckpore, for two reasons, which give it a decided advantage over the neighbouring districts:—one, the vast tract of waste and jungle-boory or forest lands brought under cultivation, and the cheap rates at which these are procurable there; and the other is that firewood is more abundant and much cheaper there than in the other sugar-growing districts, where all sorts of fuel are daily getting scarcer and dearer.

"Several of the manufacturers of sugar in the latter have already removed to Goruckpore, and it is understood that others will follow at no distant period."

On the whole, therefore, I would fain hope that the interests of millions of our subjects in India may not really be endangered by the reported low cost of the production of slave-sugar.

Agricultural Statistics of Ireland. By G. R. Porter.

[Read before the Statistical Section of the British Association at Birmingham, September, 1849.]

A volume of considerable interest and importance, entitled "Returns of Agricultural Produce in Ireland in the year 1848," has recently been distributed to the members of the two Houses of Parliament, and it is thought that a short abstract of its contents may prove interesting to the Section. This volume more than fulfils the promise set forth on its title-page, since it comprises also the returns of agricultural stock and produce in the preceding year—1847—and thus enables us to draw a comparison between the two years as regards this most important branch of the national industry, under circumstances which give to such a comparison an interest far greater than it would have possessed at almost any other period. The returns have been obtained, at the desire of Lord Clarendon, under the direction of that most intelligent and energetic public officer, Captain Larcom, of the Royal Engineers, who, it will be remembered, read before this section, at the meeting of the Association held at Cork, in 1843, a valuable and elaborate paper on the "Census of the Population of Ireland in 1841," in which paper a considerable amount of information was given that will admit of the comparison, as respects some matters connected with agriculture, being carried back to the year 1841.

The returns embraced, at both periods, the number of farms or holdings, distinguished in different classes, according to their acreage contents, information of deep importance, considering the faulty—it might rather be said, the fatal subdivision of the soil in that island; and it must be gratifying to learn, that a change in this respect is going forward, if not so rapidly as could be wished, yet more rapidly than could have been expected, from the known tenacity wherewith the Irish cottier had previously adhered to his patch of ground. The condition of the country in this respect, in each of the three years above mentioned, was :

	1841.	1847.	1848.
Farms from 1 to 5 Acres	306,915	125,926	101,779
,, 5 15 ,, ...	251,128	253,630	225,251
,, 15 30 ,, ...	78,954	150,999	146,725
Above 30 Acres	48,312	137,147	140,817
Total number.....	685,309	667,702	614,572

The number of holdings not exceeding an acre, were, in 1847, 62,447; in 1848, 44,262.

The paper read by Captain Larcom, on the Census Returns, did not give the number of these small holdings in 1841; but we may fairly presume that it must have been greatly beyond the number ascertained in 1847, seeing that the next smallest description of farms, those of 1 to 5 acres, had then decreased in the proportion of three-fifths, while those above 30 acres have increased in a three-fold proportion.

The next census returns, which will most probably be made under the direction of Captain Larcom, who so ably conducted the census of

1841, will doubtless be made to exhibit the effect which this change produces upon the course of employment. The fact has on previous occasions been noticed, that while, in England and Scotland, the proportionate number of the population employed in raising food has been decreasing in a very remarkable manner, the contrary result has been experienced in Ireland. It was ascertained, at the census of 1841, that, in Great Britain, 1000 persons engaged, as occupiers and labourers, in raising food, provided for the wants in that respect, of themselves and of 2,984 other persons, while, in Ireland, the like number of persons, viz., 1,000, so engaged, provided food for no more than 511 persons beyond themselves. In 1831, the number of occupiers not employing labourers—the lowest description of farmers—in England was 94,883, out of a population of 13 millions, whereas, in Ireland, a population of 7,700,000 furnished 564,274 of such small farmers. A great part of these have changed, or, it is to be hoped, will change their condition by becoming hired labourers for others, and as their employers will necessarily be in the possession of some capital, the labour employed by them will be rendered more effective than it could be under the old order of things, when the farmer of a mere patch of ground had usually little or nothing more than his bodily exertions to assist in developing the resources of the soil.

The amount of land under cultivation applied to the production of different kinds of food, and the actual produce, in each of the years 1847 and 1848, are given in the returns, as follows :—

	1847.			1848.		
	Acres.	Produce.		Acres.	Produce.	
Wheat	743,871	Qrs.	2,926,733	565,746	Qrs.	1,555,500
Oats	2,200,870	,,	11,521,606	1,922,406	,,	9,050,490
Barley	283,587	,,	1,379,029	243,235	,,	1,135,120
Bere	49,068	,,	274,016	53,058	,,	263,415
Rye	12,415	,,	63,094	21,502	,,	105,375
Beans and Pease	23,768	,,	84,456	50,749	,,	172,508
Total Grain and Pulse	3,313,579	,,	16,248,934	2,856,696	,,	12,282,408
Potatoes	284,116	Barrels 20 stone	16,385,562	742,899	Barrels 20 stone	23,046,512
Turnips	370,344	Tons	5,760,616	255,058	Tons	3,643,074
Mangold Wurzel	13,766	,,	247,269	12,588	,,	220,875
Carrots	....		.....	5,994	,,	75,528
Parsnips	59,512	,,	729,064	2,548	,,	23,091
Cabbage	....		.....	24,114	,,	325,763
Flax	58,312	Cwts.	349,872	53,863	Cwts.	258,608
Meadow and Clover	1,138,946	Tons	2,190,317	1,154,302	Tons	2,287,133
	5,238,575			5,108,062		

It is necessary to explain, that owing to the unsettled state of the country, it was found impossible to collect returns in the counties of Waterford and Tipperary, so that in drawing a comparison between the result of that year and of 1847, we must deduct the returns for these two counties. The total number of acres under cultivation, in 1847, was found to be 5,238,575. If we deduct therefrom the area

cultivated in Waterford and Tipperary, 432,977, the remainder will show the extent which is fairly to be brought into the comparison, viz., 4,805,598. The average under cultivation, in 1848, was 5,108,062, showing the gratifying fact, that an increase has been made in one year of 302,464 acres, exclusive of the two counties here mentioned. If the increase in those counties has kept pace with that of the remainder of Ireland, the increased breadth of land brought under cultivation in one year has amounted to 329,715 acres, or more than 6 per cent.

The produce, in 1847, if we deduct that of Waterford and Tipperary, was—

Wheat	2,389,815	Quarters.
Oats	10,950,414	,,
Barley	1,251,432	,,
Bere	230,144	,,
Rye	58,632	,,
Beans	82,402	,,
	14,962,839	Quarters.
Potatoes	15,102,828	Barrels of 20 stone.
Turnips	5,146,490	Tons.
Green Crops	913,439	,,
Flax	347,856	Cwt.
Hay	2,001,673	Tons.

The proportions in which the land was employed for different purposes, in 1848, in farms of different extent, are given as follows :—

	Under 1 Acre.	1 to 5 Acres.	5 to 15 Acres.	15 to 30 Acres.	Above 30 Acres.
Wheat	6·98	9·90	9·26	10·10	12·29
Oats	26·54	41·07	45·46	42·71	32·34
Barley, Bere, and Rye	13·46	9·27	7·18	6·35	5·55
Beans and Peas	0·94	1·01	0·98	1·04	0·97
Potatoes	37·60	23·24	17·95	15·84	11·95
Turnips	4·44	4·10	4·20	4·49	5·57
Other Green Crops	5·71	0·98	0·81	0·78	0·93
Flax	0·25	0·60	1·18	1·39	0·89
Meadow and Clover	4·08	9·83	12·98	17·30	29·51
	100·	100·	100·	100·	100·

The stock of various kinds that existed at the time of the last census (1841), and in 1847 and 1848, were as follow :—

	1841.	1847.	1848.
Horses and Mules	552,569	498,221	499,343
Asses	90,315	112,029	105,017
Horned Cattle	1,840,025	2,367,139	2,481,501
Sheep	2,091,199	1,981,635	1,809,107
Pigs	1,353,101	517,476	549,583
Poultry	8,334,427	4,956,148	5,889,412

These figures afford a strong commentary upon the distress occasioned by the failure of the potato harvest. It appears that, comparing 1847 with 1841, the number of horses was lessened by 54,348,

but the deficiency in farms not exceeding 15 acres, amounted to 163,692, while there was actually an increase on farms above that area of 109,344. Of asses, there was an increase of 21,714; but on the small farms there was a falling off in the number of these animals, amounting to 32,955, while there was an increase on the larger holdings of 54,669. With respect to horned cattle, there was an increase of 527,114; but this was wholly experienced on the larger farms, there having been on those not exceeding 15 acres fewer in 1847 than in 1841 by 336,471, and consequently more on the larger holdings by 863,585. The number of sheep was less on the whole, in 1847, than in 1841, by 109,565; but the deficiency on the small farms was 529,226, while there was an increase on the larger. The greatest deficiency has been experienced in regard to pigs and poultry, which in Ireland are especially domestic animals, and, as might be expected, the falling off is found chiefly among the cottier class. In the larger farms,—those above 30 acres in extent,—there were 42,643 more pigs in 1847 than in 1841; whereas in all the smaller holdings the difference was very greatly in the other direction. On farms not exceeding one acre, the numbers were 295,048 in 1841, and only 19,108 in 1847. On farms from 1 to 5 acres, there were 251,587 in 1841, and only 21,422 in 1847. In the next division, between 5 and 15 acres, the numbers were 350,825 in 1841, and no more than 80,098 in 1847. Persons holding from 15 to 30 acres, kept in 1841 215,340, and only 113,864 in 1847, while on farms above that size, the numbers which were 240,301 in 1841 had advanced to 282,984 in 1847. The entire deficiency of this description of stock between the two periods was 835,625, or more than 60 per cent. The diminished number of poultry was 3,378,279 upon 8,334,427, or 40 per cent., which, as in the case of the pigs, applied entirely to the smaller farms. On those above 15 acres there was an increased number, amounting to 1,048,974, showing that the lessened number on the smaller farms was 4,427,253. The lessened number of pigs is clearly referable to the failure of the food upon which those animals are usually kept in the cabins of the peasantry; and as regards poultry, it could hardly be expected that a starving people should continue to rear things so easily convertible into food, or into that which would procure food for the owners. These facts, which are proved beyond controversy by the inquiries of the Irish government, place in a very conspicuous light the disadvantage of peasant holdings, as compared with farms which, from their extent, require to be cultivated by persons who, possessing some capital, are not driven, on the occurrence of the first calamitous season, to measures destructive of their own future prosperity, and injurious to the public at large. The question of the advantage, or otherwise, of maintaining a class of peasant proprietors, is one upon which it would not be advisable to dilate on this occasion; but the figures brought forward in the returns under examination appear to be so important, as exhibiting the consequences of farming without the needful appliances, that it was impossible to pass them by, without this one word of comment.

The table exhibiting the number of acres devoted in 1847 and 1848 respectively to the production of the different cereal grains, shows a result for which we could hardly have been prepared. There was a

falling off in the breadth of wheat, sown, of 178,125 acres, or 24 per cent. upon the quantity in 1847. Of oats there was a lessened sowing of 278,464 acres, or 12½ per cent. Of barley, the cultivation was lessened by 40,352 acres, or nearly 14 per cent. On the other hand, the tendency to continue dependent for a great part of their daily food upon potatoes has been shown by the Irish peasantry in the marked increase of the land devoted to their growth, which amounted to 458,783 acres, or 160 per cent. upon the number of acres so employed in 1847! We hear but of little injury sustained by this root at present, and may expect that the misery through which that peasantry had to pass, consequent upon the destruction of their staple produce, will be forgotten, and that they may be willing to remain in dependance upon the success of this lowest description of food, and thus be liable at any time to a recurrence of the horrors of famine.

We are now for the first time in the history of this country enabled to record, with anything approaching to accuracy, the actual and comparative result of two consecutive harvests. The result is such as to prove—if indeed any proof to that effect could be required—of how much, and of how vital importance it is to know the truth upon this most momentous subject. We have seen that the breadth of land devoted, in 1848, to the cultivation of the cereal grains was much less than in the previous year, and the figures which record the result of that cultivation serve to show that the actual produce of the land, in all its most important objects, was such as greatly to aggravate the evil thence to be expected. It appears, upon calculation, that the produce of the cereal grains in bushels, and of potatoes in tons, in each of the two years, was as follows:

		1847.	1848.
Wheat	Bushels	31·4	22·
Barley	,,	39·	37·3
Oats	,,	41·8	37·6
Bere	,,	44·6	39·7
Rye	,,	40·6	39·2
Potatoes	Tons	7·28	3·87

If the deficiency here shown were equally great in Great Britain, we can be at no loss to account for the very large importations of foreign grain imported during the twelve months from August, 1848, to August, 1849, and which importations, great as they have been, would seem to be in no degree beyond our requirements.

The quantities so entered have been as follow:—

Wheat	4,323,645	Quarters.
Barley	1,323,827	,,
Oats	1,221,883	,,
Rye	220,829	,,
Peas	266,475	,,
Beans	531,177	,,
Maize	2,287,283	,,
Wheat Flour, 3,508,375 cwts., equal to	1,002,393	,,
Total	11,177,512	Quarters.

On the Relative Value of Averages derived from different numbers of Observations. By William A. Guy, M.B., Cantab, *Fellow of the Royal College of Physicians; Professor of Forensic Medicine, King's College; Physician to King's College Hospital; Honorary Secretary of the Statistical Society.*

[Read before the Statistical Society of London, 16th April, 1849.]

The subject of this communication has been usually treated as a branch of the mathematics; and few, if any, attempts have been made to illustrate it by means of observation. The labour which this mode of illustration must necessarily entail has probably disinclined men from its adoption. On the other hand, abstract reasoning possesses the twofold advantage of brevity and certainty. The mathematician sees at once that any attempt to establish broad principles, or to construct formulæ, by the aid of observation alone, must necessarily fail, from the vast number of facts which would be required before even a starting-point for calculation could be reached. To take a familiar example:—the chances of throwing doublets with the dice may be very easily calculated; but days, weeks, or even months, might be spent in a vain attempt to deduce these chances from actual observation. So, also, with Vital Statistics. It would not be possible to accumulate a sufficient number of facts in illustration of the age at death of any single class of persons to enable us to determine how many of such facts would suffice to establish a true average. There is only one obvious method by which such a result could be accomplished; and that is, by placing, side by side, two averages based upon the same number of facts, and adding an equal number of facts to either total, till the difference between the averages fell to zero, and continued to stand at that point through several successive additions. Even if we were to content ourselves with a rougher approximation, it could only be reached by a very laborious series of calculations, which might not, after all, repay the pains bestowed upon them. It is not, therefore, with any hope of solving the difficult question—How many observations are necessary to obtain a true average? that the following facts are adduced; but simply to furnish an illustration, imperfect though it be, of the variable results obtained by actual observation on a limited scale. The facts themselves, on which the averages are founded, happen to have been collected in such a manner as to fit them for the use to which they are now put; and having spent some time in the calculations, I am unwilling that the results should be lost. They may perhaps possess some immediate interest, and be put hereafter to some useful purpose.

The facts to which I refer consist of the ages, at death, of the members of the several ranks and professions, and have already supplied the materials of a series of communications to the Statistical Society. Three collections of such facts are available for my present purpose: the first, relating to the duration of life of the English aristocracy; the second, to that of kings; the third, to that of the large mixed class, whose deaths are recorded in the obituaries of the Annual

Register, consisting of almost every man of note in the higher and middle ranks of society during about three quarters of a century.

It may be well to premise that, in throwing these several classes of facts into groups, care has been taken to avoid everything bordering on selection. Those facts which came first to hand are placed first, and those which followed in the order of collection take the second place in the tables. The same caution has been observed in adding group to group. The first use which I propose to make of the facts is to arrange them in averages of 25, 50, 75, 100, and so on up to 1000, in two parallel columns, with a third column of differences, with a view of ascertaining the rate and degree of approximation of the two series.

TABLE I.

Average Age at Death.

No. of Facts.	1st Series.	2nd Series.	Difference.
25	60·96	61·24	0·28
50	59·46	60·66	1·20
75	61·30	61·20	0·10
100	61·78	61·98	0·20
125	61·10	61·42	0·32
150	61·90	60·61	1·29
175	62·44	60·67	1·77
200	61·34	60·85	0·49
225	61·07	60·44	0·63
250	60·56	59·93	0·63
275	59·95	59·63	0·32
300	59·77	60·10	0·33
325	59·80	59·88	0·88
350	59·84	60·14	0·30
375	59·93	59·85	0·08
400	59·35	59·98	0·63
425	59·42	60·00	0·58
450	59·38	60·23	0·85
475	59·37	60·43	1·06
500	59·42	60·66	1·24
525	59·26	60·57	1·31
550	59·14	60·74	1·60
575	59·34	60·62	1·28
600	59·48	60·75	1·27
625	59·53	60·56	1·03
650	59·53	60·26	0·73
675	59·58	60·28	0·70
700	59·58	60·31	0·73
725	59·80	60·30	0·50
750	59·79	60·49	0·70
775	59·72	60·38	0·66
800	59·84	60·67	0·83
825	59·96	60·52	0·56
850	59·77	60·62	0·85
875	59·74	60·61	0·87
900	59·78	60·47	0·69
925	59·87	60·56	0·69
950	59·87	60·46	0·59
975	59·90	60·38	0·48
1,000	59·75	60·38	0·63

Table I. consists of two such columns, each headed by an average of 25 facts, deduced from the first 50 ages at death, extracted from the peerage. Each group of 25 facts becomes 50 in the second line, 75 in the third line, 100 in the fourth line, each group increasing by 25 at a time until the last average in each column is based on 1000 facts. The facts successively added were taken, like the first hundred facts, from the peerage, and then from the baronetage, in the exact order in which they occur.

This table will at least serve to show the hopelessness of the attempt to discover by the mere accumulation of observations, the number of facts which may be necessary to furnish a true average. It will be seen that the two columns of figures continue to exhibit as wide divergences and as marked fluctuations between the average values derived from a large as from a small number of facts; that the first difference is below the average of all the differences: and that, with a single exception, the averages derived from 75 facts show a closer approximation than any other figures in the two columns. The superiority of a large to a small number of facts shows itself, however, in the steadiness of the results (if we strike off the decimals) in all the averages obtained from more than 250 facts in the first column, and from upwards of 400 in the second column. It will also be observed that the difference between the highest and lowest average in each column of figures is very small. In the first column the greatest average is 62·44, the least 59·14, and the difference 3·30; in the second column, the highest average is 61·98, the lowest 59·63, and the difference 2·35. It would appear, then, if this table were taken as a guide, that averages drawn from even a small number of facts do not lead to those extreme inaccuracies to which they are generally supposed to be liable. But, as conclusions based upon a single fact, or a single collection of facts, must always be viewed with suspicion, it is very desirable to extend our investigation so as to embrace at least a second collection of figures of the same order. My inquiries into the duration of life among sovereigns have supplied me with the means of effecting this on a small scale, in Table II.

In this table it will be observed that the first average of the first column falls short of the first average of the second column by nearly five years, and that all the subsequent averages of the two columns exhibit a much closer approximation. In like manner, the difference between the highest and lowest averages of either column is more considerable, being $54{\cdot}84 - 48{\cdot}88 = 5{\cdot}96$, in the one case, and $56{\cdot}91 - 52{\cdot}92 = 3{\cdot}99$ in the other. Both columns also exhibit a greater amount of fluctuation than those of Table I. The natural inference to be drawn from this circumstance is, that the slight difference between the first averages of the two columns in the first table was a mere coincidence, and that the more uniform and steady character of that table is due to such coincidence.

It is obvious, therefore, that tables constructed upon this principle would be liable to lead careless reasoners into error, and that a different arrangement of the elementary facts is necessary to the right understanding of the relative value of different numbers of facts as data for reasoning.

TABLE II.

Average Age at Death.			
No. of Facts.	1st Series.	2nd Series.	Difference.
25	48·88	53·72	4·84
50	51·24	52·92	1·68
75	53·79	54·23	0·44
100	54·84	55·56	0·72
125	54·61	56·08	1·47
150	54·38	56·91	2·53
175	54·17	56·21	2·04
200	54·34	55·99	1·65
225	54·50	56·19	1·69
250	54·36	56·14	1·78
275	54·09	55·93	1·84
300	53·82	55·80	1·98
325	54·01	55·91	1·90
350	54·40	55·85	1·45
375	54·28	56·08	1·80
400	54·14	56·20	2·06
425	54·35	55·79	1·44
450	54·37	55·57	1·20
475	53·90	55·26	1·36
500	53·82	55·28	1·36
525	53·86	55·05	1·19
550	53·92	54·77	0·85

The following tables, of which the first is founded on the average ages, at death, of the peerage and baronetage, and the second, on the average ages, at death, of the members of the several ranks and professions, as deduced from the "Annual Register," will be found to comprise most of the elements of an instructive comparison. The facts in both instances were taken without selection, in the order in which they stood in my original papers. The several facts were first arranged in a line in groups of 25 each, two successive groups of 25 were then formed into groups of 50, the groups of 50 into groups of 100, and so on, till the last totals in the tables were obtained.

TABLE III.

No. of Facts.	No. of Groups.	Average Age at Death.		
		Maximum.	Minimum.	Range.
25	64	69·40	50·64	18·76
50	32	66·44	55·20	11·24
100	16	63·70	56·85	6·85
200	8	62·38	57·61	4·77
400	4	61·10	58·24	2·86
800	2	60·84	59·67	1·17
1,600	1	60·25		....

TABLE IV.

No. of Facts.	No. of Groups.	Average Age at Death.		
		Maximum.	Minimum.	Range.
50	128	84·44	56·78	27·66
100	64	76·24	58·25	17·99
200	32	73·54	61·50	12·04
400	16	69·78	63·51	6·27
800	8	68·67	65·07	3·60
1,600	4	67·93	64·84	3·09
3,200	2	66·38	65·82	0·56
6,400	1	66·10		....

Each of these tables exhibits, in a very striking manner, the wide difference which may exist between averages deduced from small numbers of facts. The first table, founded on facts of a very uniform character, namely, the ages, at death, of what may be termed the one class of the English aristocracy, exhibits, for averages based on the small number of 25 observations, a possible difference between the highest and lowest average of nearly 19 years, being considerably above one-fourth of the highest average. In the second table, which is formed of units differing more widely from each other, inasmuch as they represent the ages at death of several classes of the community, the difference between the highest and lowest average of 50 observations is, in round numbers, 28 years, or nearly one-third of the highest average. If we take the true average in the first table to be 60 years (the mean of 1600 observations), then the greatest average exhibits an error of more than 9 years, and the least average an error of about the same amount. If, again, in the second table, we assume the true average to be 66 (the average of 6,400 observations), we may have an error in excess to the extent of 18 years, and an error in defect to the extent of 10 years. But when these averages are used for purposes of comparison, it is obvious that the possible error may amount to the sum of the two errors involved in the two averages respectively. Suppose, for example, that we wish to ascertain the relative longevity of the members of the English aristocracy and of the entire upper and middle class, and we proceed to determine the question by averages founded on 50 observations, it might happen that the average for the first-named class was the minimum 55·20, and for the last-named class the maximum 84·44. The difference between these two numbers is 29·24. But on the assumption that the true averages are 60·25 and 66·38, the true difference will be only 6·13. So that the possible error is no less than 29·24 — 6·13, or 23·11.

It will be seen that the limits of possible error diminish rapidly with an increase of observations. Thus, if we take the first table, and express the range, or difference, in round numbers, the limit of error in excess or defect diminishes as half the respective numbers 19, 11, 7, 5, 3, 1. In the case of the second table, the limits of error will be as the half of the several round numbers 28, 18, 12, 6, 4, 3, 1. We look in vain for a numerical law of approximation, unless, indeed, the round

numbers 1, 3, 5, 7, in the last four lines of the first table, exhibiting, as they do, an arithmetical progression with the number 2 as the common difference, may be regarded as an indication of such a law. We could only adopt this supposition by the somewhat arbitrary assumption that the law does not begin to display itself till a rude approximation to a true average has been obtained by summing up 100 observations. The great irregularity of the second table, moreover, would seem to forbid this view of the case.

There is one defect in these tables which may serve to explain the absence of any decided approach to regularity in the figures which represent the limits of variation; namely, the circumstance that the number of the groups diminishes as the number of facts increases. For instance, the wide range of 19 years, which appears in the first line of the first table, is the difference between the highest and lowest averages of no less than 64 groups of 25 facts, while the limited range of one year is obtained from only two groups of 800 facts each. If any approximation to a numerical law of increase or decrease is to be looked for as the result of observation, it is clearly not reasonable to expect it except from a comparison of the same number of groups. And although it is probable that the chance of the discovery of such a law in such a manner would be small, unless the groups were not merely equal in number, but also numerous, I have thought that some traces of such a law might possibly be discovered in a collection of facts in which the groups should be equal, though limited in number. The eighth Annual Report of the Registrar-General furnishes the materials for a comparison of this kind, by presenting us with the number of male and female births for the several counties and registration districts of England, during each of the six years 1839-44. From this return I have selected, without previous calculation of the results, and with an eye solely to the number of the facts, certain districts and counties; and, having calculated for each of the six years, the number of male births which would have happened in one million of births, have given in separate columns the average number of births recorded in the year, the greatest and least number of male births in a million, and the range or difference between the two extremes. The results are embodied in Table V.

This table, in common with Tables III. and IV., serves to enforce the little dependence to be placed on small numbers of facts, but it is still less favourable to the discovery, by observation, of any numerical law of approximation. The figures which express the range or difference between the highest and the lowest number of male births, present no approach to regularity; and there is every reason to believe that the fluctuations are due, not to the variable proportion of male and female births, but merely, or chiefly, to the larger or smaller number of facts. If we endeavour to arrive at some numerical law by throwing the several returns into larger groups, we are equally unfortunate. If, for instance, we throw the 28 separate returns into four groups of seven each, strike an average of each group, and place the last return for all England by itself, we obtain, as the differences between the highest and lowest number of male births in one million, the numbers 3,028, 6,584, 9,812, 24,648, and 59,655, in which it is quite hopeless to attempt to trace any law of increase or decrease.

We are equally baffled if, allowing the first and last return to stand by themselves, we distribute the remaining 27 returns into three groups of 9 each. The five differences in this case are as follows: 3,028, 6,663, 12,605, 47,163, 107,016.

TABLE V.

Name of District.	Number of Births.	Maximum.	Minimum.	Range.
Salisbury	271	543,798	436,782	107,016
Canterbury	368	556,180	482,500	73,680
Penkridge	436	554,113	493,333	60,780
Winchester	615	545,031	492,228	52,803
Rutlandshire	722	527,246	466,942	60,304
Staines and Uxbridge	858	532,184	498,195	33,998
Northampton	1,047	524,281	495,274	29,007
St. George in the East	1,515	518,619	480,771	37,848
Alresford and Petersfield	1,612	541,256	500,000	41,256
Huntingdonshire	2,032	519,824	485,030	34,794
Middlesex (part of)	3,854	517,260	496,915	20,345
Cambridgeshire	5,940	522,690	507,188	15,502
Derbyshire	7,760	517,746	508,166	9,582
Suffolk	10,011	519,205	505,996	13,209
Gloucestershire	11,894	522,582	497,945	24,637
Kent	14,256	516,997	506,651	10,346
Staffordshire	15,771	516,439	507,767	8,672
South Wales	16,727	516,753	512,006	4,747
Northern Counties	27,916	517,735	511,330	6,405
Eastern Counties	32,212	514,620	509,765	4,855
North Midland Counties	36,451	519,801	510,778	9,023
South Midland Counties	37,764	515,455	507,205	8,250
South-Eastern Counties	44,290	519,268	508,978	10,290
South-Western Counties	52,656	514,210	509,368	4,842
York	53,825	515,244	510,453	4,791
Metropolis	59,422	513,812	509,491	4,321
Western Counties	61,903	515,808	507,642	8,166
North-Western Counties	76,721	515,985	510,557	5,428
England	515,478	514,809	511,781	3,028

Being thus completely baffled in my attempt to discover, by means of such observations as were most readily available, a numerical law of approximation, expressive of the relative value of averages founded upon different numbers of facts, I proceeded to compare the results of observation, in the matter of male and female births, with the liability to error, as derived from well known and generally received mathematical formulæ, of the several averages founded upon few or many facts.

But before I proceed to institute this comparison between the results of observation and the figures derived from the formulæ of the mathematician, I would revert, for a moment, to the tables already brought forward, with a view of throwing light upon a question of the greatest practical importance, namely, to what extent are we justified in employing averages founded upon small numbers of observations?

One of the leading results just established by the tables, is the wideness of the limits which separate the highest and lowest averages

derived from equal small groups of facts. For instance, the averages drawn from 64 groups of 25 ages at death of peers and baronets, ranged between a minimum of 51 and a maximum of 69 years, leaving a difference of no less than 18 years, the average of 1,600 observations being about 60 years. In like manner 128 groups, containing each 50 ages at death, of the mixed upper and middle classes, gave a maximum of 84, a minimum of 57, and a range of no less than 27 years, the average of 6,400 facts being 66 years. The extremes approached, and the range contracted rapidly as the numbers of observations in each group increased.

Now this wide divergence of the extreme values derived from equal small groups of facts would seem at first sight to be absolutely fatal to the use of such small collections of facts for statistical purposes. But before we adopt this conclusion, it would be well to examine the several averages which lie between the two extremes, with a view to determine whether they are distributed equally or not; what are the chances that any average taken at hazard will approximate to the true mean, or to the extremes; and, generally, whether the chance of encountering, in the majority of instances, a near approach to the true value, may not be such as to warrant the employment of even small collections of facts, if not as demonstrative evidence, at least as valuable probabilities?

With a view of throwing some light upon this very important question, I have prepared two tables, constructed in the same manner, and showing, for the several groups of facts, the precise number of averages corresponding to each age lying between the two extremes. Each average is referred to the round numbers to which it is nearest. The average of all the facts is distinguished by a larger type.

TABLE VI.

Facts taken from the Peerage and Baronetage.

Average Age.	25 Facts, 72 Groups.	50 Facts, 36 Groups.	100 Facts, 18 Groups.	200 Facts, 9 Groups.	400 Facts, 4 Groups.	800 Facts, 2 Groups.
69	1	....	....	....	....	....
68	0	....	....	....	....	....
67	0	....	....	....	....	....
66	3	1	....	....	....	....
65	4	0	....	....	....	....
64	9	2	1	....	....	....
63	3	3	1	....	....	....
62	3	5	3	3	....	....
61	9	6	3	0	3	1
60	9	4	3	2	0	1
59	8	5	3	3	0	....
58	6	5	1	1	1	....
57	5	1	3	....	....	....
56	6	3	....	....	....	....
55	1	1	....	....	....	....
54	3	....	....	....	....	....
53	1	....	....	....	....	....
52	0	....	....	....	....	....
51	1	....	....	....	....	....

TABLE VII.

Facts taken from the Annual Register.

Average Age.	50 Facts, 128 Groups.	100 Facts, 64 Groups.	200 Facts, 32 Groups.	400 Facts, 16 Groups.	800 Facts, 8 Groups.	1,600 Facts, 4 Groups.	3,200 Facts, 2 Groups.
84	1	....	....	....	....	....	....
83	0	....	....	....	....	....	....
82	0	....	....	....	....	....	....
81	0	....	....	....	....	....	....
80	0	....	....	....	....	....	....
79	0	....	....	....	....	....	....
78	0	....	....	....	....	....	....
77	0	....	....	....	....	....	....
76	1	1	....	....	....	....	....
75	1	0	....	....	....	....	....
74	4	1	1	....	....	....	....
73	2	1	0	....	....	....	....
72	2	1	0	....	....	....	....
71	5	0	0	....	....	....	....
70	4	4	0	1	....	....	....
69	7	3	2	0	1	....	....
68	13	5	3	1	0	1	....
67	17	9	4	4	1	0	....
66	20	13	14	4	2	1	2
65	5	13	2	4	3	2	....
64	16	6	2	2	1	....	....
63	11	1	2	....	....	....	....
62	10	4	1	....	....	....	....
61	3	1	1	....	....	....	....
60	3	0	....	....	....	....	....
59	0	0	....	....	....	....	....
58	0	1	....	....	....	....	....
57	3	....	....	....	....	....	....

These tables supply a ready answer to the questions just propounded: they show at a glance, what *à priori* reasoning would suggest, that the individual averages are few in number in the direction of the extremes, and numerous as we approach the true average. In the first table, for instance, in no less than 9 cases out of 72, or one-eighth of the whole number, the averages of 25 facts are the same as the true average, namely 60; while, in the second table, 20 out of 128 groups of 50 facts, or little less than one-sixth of the whole number, yield the true average, namely, 66. The remaining columns of the two tables present similar results; but those of the second table are the most striking. Thus, of the 64 groups of 100 facts, 13, or about one-fifth, of the 32 groups of 200 facts, 14, or nearly one-half, of the 16 groups of 400 facts, 4, or one-fourth, and of the groups of 800 and 1600 facts, the like proportion are found to coincide with the true average derived from all the facts.

If, again, we take the instances in which the averages exceed, and fall short of the true average by only one year (which may be regarded as a very near approach to accuracy), we find that, in the first table, 26 out of 72 groups of 25 facts, 15 out of 36 groups of 50 facts, 9 out of 18 groups of 100 facts, 5 out of 9 groups of 200 facts, and 3 out of 4 groups of 400 facts, or upwards of one-third, little less than one-

half, exactly one-half, more than one-half, and three-fourths respectively, answer to this description. So also in the second table: 42 in 128 groups of 50, 35 in 64 groups of 100, 20 in 32 groups of 200, 12 in 16 groups of 400, 6 in 8 groups of 800, and 3 out of 4 groups of 1600, correspond with the average of all the facts. There is, therefore, no room for doubt that the chances in favour of an average, approaching very closely to the true average, greatly overbalance those in favour of an average approaching either extreme, even when the number of facts from which such average is calculated is inconsiderable.

The progressive and steady increase or decrease in series of averages of 25 or 50 facts (as in my observations on the frequency of the pulse in the two sexes at different ages), may be adduced in confirmation of the result of the foregoing tables, and as a sufficient reason for not rejecting conclusions based upon a small number of observations*.

The materials of the foregoing tables are the ages at death of members of the aristocracy, and of the combined upper and middle classes. I now propose to extend my inquiry, so as to embrace a different order of facts belonging to that class of investigations in which two alternative events, such as death or recovery from disease, the birth of a male or female child, &c., are in question. In order that the element of more or fewer facts might have full play, and be subject to the least possible disturbance, I have chosen a very simple alternative event, namely, the attendance of a male or female patient among the out-patients of an hospital. The facts have been carefully extracted from the physicians' out-patient book of the King's College hospital, in which are entered the names of all patients of both sexes above ten years, with exceptions which it is not necessary to specify. The male and female attendances were extracted from the books by fifties, in the exact order in which they were entered. The number of males in each fifty patients was then written down in a vertical line, two adjoining fifties were bracketed together to form a group of 100, two adjoining hundreds to form a group of 200, and so on till the grand total of 6,400 was obtained.

I shall assume that the average of these 6,400 facts form the true average, and as such, shall use it for a standard of comparison.

The most superficial examination of my tables convinced me that the fluctuations in this new order of facts were not less than those which I had encountered in the averages based upon the ages at death of different classes of the community.

Table VIII., which is a counterpart of Tables III. and IV., exhibits the per centage attendances of males, in maxima and minima, as obtained from groups of 50, 100, 200, 400, 800, 1,600, and 3,200 facts.

This table exhibits the same rapid but irregular approximations of the extreme values which characterize Tables III. and IV., and the same absence of any obvious numerical law of approximation. The per centage attendance of males which for 50 facts and 128 averages has a range equal to the average of all the groups, namely, a range of 40, exhibits for the two averages of 3,200 facts a range of less

* In the case of the female pulse, averages of 25 facts showed a regular and progressive decrease for every period of 7 years from birth to the 56th year, and a progressive increase from that age to the end of life. Averages of the same number of facts exhibited for the male pulse a similar but less steady decrease and increase.

than one-fifth of an unit. Even the four groups of 1,600 facts display a range of less than one and a-half: the rate of approximation to a true average is, therefore, very rapid.

TABLE VIII.

Number of Facts.	Number of Groups.	Attendance of Males in 100 Attendances.		
		Maximum.	Minimum.	Range.
50	128	64	24	40
100	64	53	29	24
200	32	46	$34\frac{1}{2}$	$11\frac{1}{2}$
400	16	$43\frac{3}{4}$	36	$7\frac{3}{4}$
800	8	$41\frac{1}{4}$	38	$3\frac{1}{4}$
1,600	4	$40\frac{7}{16}$	$39\frac{1}{8}$	$1\frac{5}{16}$
3,200	2	$39\frac{25}{32}$	$39\frac{31}{32}$	$\frac{3}{16}$
6,400	1	$39\frac{7}{8}$		

The probability of encountering a true average, or one equal to the average of all the facts, will also appear to be similar to that displayed in Tables VI. and VII. There is the same tendency in the averages to arrange themselves about the true mean, rather than in the neighbourhood of the extremes. This will fully appear in Table IX., in which, in consequence of the necessity of reducing all the averages to per centage proportions, the numbers in the column of 50 facts, being the figures extracted from the hospital books multiplied by 2, will be found opposite to even numbers. The figures in the other columns are the round numbers nearest to the quotients of the totals divided by 2, 4, 8, 16, and 32, respectively.

Having thus reproduced for a new order of facts the tables founded upon the ages at death of the aristocracy, and of the combined upper and middle classes, with a view of confirming the results arrived at by the use of these data, I proceed to institute the promised comparison between the results of actual observation and the calculations of the mathematician.

The materials which I have selected for this purpose are the numbers of male and female births which took place in several counties and registration districts of England and Wales during each of the six years from 1839 to 1844 inclusive. The comparison in question is embodied in Table X., of which the first column consists of numerals referring to the counties and registration districts specified in the foot-note; the second column, of the number of births registered in the several counties or districts on an average of the six years; the third column, of the mean number of male births in one million occurring in the six years; the fourth column, of the greatest and least number of male births in the six years, with the range, or difference between them; the fifth column, of the greatest and least number of male births which would have taken place in the same six years, on the supposition that the male and female births are really equal in number, and that the observed difference between the male and female births is an error of observation; the sixth column, of the error in excess or defect attaching to the number of facts upon that supposition; the seventh

column, of the greatest and least number of male births in one million, which would result from the addition and substraction of the error due to the number of facts to and from the average male births in one million in the same six years; and the eighth and last column, of the error in excess or defect to which the respective numbers of facts are liable. The formulæ by which the figures in the last four columns were calculated are given in the foot-notes.

TABLE IX.

Average No. of attendances of Males.	50 Facts.	100 Facts.	200 Facts.	400 Facts.	800 Facts.	1,600 Facts.	3,200 Facts.
64	1	....	....	....	....	....	....
63	....	....	....	....	....	....	....
62	....	....	....	....	....	....	....
61	....	....	....	....	....	....	....
60	1	....	....	....	....	....	....
59	....	....	....	....	....	....	....
58	....	....	....	....	....	....	....
57	....	....	....	....	....	....	....
56	2	....	....	....	....	....	....
55	....	....	....	....	....	....	....
54	1	....	....	....	....	....	....
53	....	1	....	....	....	....	....
52	3	....	....	....	....	....	....
51	....	....	....	....	....	....	....
50	1	....	....	....	....	....	....
49	....	1	....	....	....	....	....
48	8	2	....	....	....	....	....
47	....	....	....	....	....	....	....
46	11	1	1	....	....	....	....
45	....	2	2	....	....	....	....
44	13	7	1	....	....	....	....
43	....	5	2	1	....	....	....
42	15	6	1	1	....	....	....
41	....	5	5	4	2	....	....
40	15	5	3	5	3	3	2
39	....	4	3	1	2	1	....
38	14	5	7	2	1	....	....
37	....	5	3	1	....	....	....
36	8	6	2	1	....	....	....
35	....	1	1	....	....	....	....
34	14	3	1	....	....	....	....
33	....	2	....	....	....	....	....
32	9	2	....	....	....	....	....
31	....	....	....	....	....	....	....
30	5	....	....	....	....	....	....
29	....	1	....	....	....	....	....
28	5	....	....	....	....	....	....
27	....	....	....	....	....	....	....
26	1	....	....	....	....	....	....
25	....	....	....	....	....	....	....
24	2	....	....	....	....	....	....

The results of the comparison instituted in this table are interesting and instructive. On the supposition that the actual equality of male and female births in one district (No. 21,) in one of the six years, and the near approach to equality in other instances, had left us in doubt

whether the inequality in other years and districts might not be explained by the errors attaching to a comparatively small number of observations, the mathematician would direct us to compare columns 4 and 5, with a view to a solution of the difficulty. The figures in the fifth column are calculated upon the assumption, that the male and female births are naturally equal; but that in consequence of the limited number of facts embraced by the several returns, that equality is destroyed, and the proportion of male to female births is subject to great apparent fluctuation. If, then, this assumption of equality be false, the maxima of male births in the several districts ought uniformly to exceed the maxima obtained by calculation. In other words, in order to disprove the theory of equality, the maximum established by observation ought, in each return, to surpass the limits of possible error due to the numerical insufficiency of the facts.

But a reference to the table will show that it is only in nineteen out of twenty-nine returns that the highest number of male births obtained in each of the six years, 1839-44, does exceed the maximum obtained by calculation. In the rest of the returns, being ten in number, the use of the calculations in column 5 would at least leave us in doubt, as the observed maxima are less than the maxima derived from calculation. In these ten cases, therefore, though the returns display an apparent excess of male births, that excess falling short of the maxima derived from calculation, we should remain in doubt whether the observed excess of male births was in the nature of things, or merely an error of observation. To make this subject more easy of comprehension, I will take two cases in point—the returns for all England, marked 1, and the returns for Huntingdonshire, marked 20. On referring to column 5, it will be seen that, on the supposition of a perfect equality between the male and female births, 515,478 recorded births might yield any number between 500,624 and 499,376 male births in a million. Now, every one of the returns for the six years, 1839-44, greatly exceeds the maximum 500,624; it may, therefore, be fairly assumed that the male and female births are not equal in number, but that, in the nature of things, there is an excess of male births. On the other hand, it appears by column 5, that, on the same supposition of a perfect equality of male and female births, we might encounter in 2,032 births recorded in the county of Huntingdon any number of male births in a million between 531,369 and 468,631. But every one of the six returns from Huntingdonshire falls short of the maximum 531,369. Hence we may infer that at least there is the greatest possible doubt whether the male and female births in that county may not be equal. Now, there is good reason to believe that in England, at least, the rule of an excess of male births is subject to no exception. It obtains uniformly in the first fourteen districts of the table, from which the returns are most numerous; it fails only where the facts are comparatively few in number; and it is obviously in the highest degree improbable that out of twenty-nine returns taken without selection from several hundreds, the first fourteen should be governed by one rule, and the last fifteen by another. From this table, then, it may be fairly inferred that the formulæ of the mathematician are not applicable as tests to the results of observations founded on comparatively small numbers of facts.

A comparison of the actual maxima and minima established by observation in the six years, 1839-44, with the maxima and minima calculated by the formulæ $\frac{m}{\mu} \pm 2\sqrt{\frac{2mn}{\mu^3}}$ shows, as might be anticipated, a greater divergence between the extremes derived from calculation than between those established by observation within so limited a period. It is only in the single case of all England, where the number of facts exceeds half a million, that the extremes obtained by calculation fall within those established by observation.

On reviewing the tables contained in this communication to the Society, the following propositions may be put forward as fully warranted by them:

1. That the range, or difference between the greatest and least average derived from successive groups of small numbers of facts is very considerable, but that it diminishes rapidly as the number of facts increases.

2. That the rate of approximation of the extreme values varies with each different order of facts, and that it does not appear to be amenable to any numerical law.

3. That the greater the number of the elements which determine the occurrence of the events that, when thrown into groups, constitute the materials of our averages, the greater should be the number of our facts; *e. g.* the average duration of life of the entire middle class ought to be deduced from a larger number of facts than the average duration of life of a single profession.

4. That though the *possible* error to which a given small number of facts is liable is very large, there is always a fair probability in favour of any particular average coinciding with, or approaching very closely to, the true average.

5. That the formulæ of the mathematician have a very limited application to the results of observation; and that if incautiously applied, they may lead to very grave errors.

6. That though averages derived from large numbers of facts are worthy of much greater confidence than those founded upon small numbers of facts, the latter class of averages are by no means to be rejected as useless, but should be employed as probabilities of greater or less value, as the number of facts is larger or smaller.

These propositions lay no claim to originality. They are merely intended to express the conclusions legitimately to be drawn from the facts contained in this essay.

Names of the Places from which the Returns in Table X. are taken.

(The numbers are those in column I. of the Table.)

1. England. 2. North-Western Counties. 3. Western Counties. 4. Metropolis. 5. York. 6. South-Western Counties. 7. South-Eastern Counties. 8. South Midland Counties. 9. North Midland Counties. 10. Eastern Counties. 11. Northern Counties. 12. South Wales. 13. Staffordshire. 14. Kent. 15. Gloucestershire. 16. Suffolk. 17. Derbyshire. 18. Cambridgeshire. 19. Middlesex (part of). 20. Huntingdonshire. 21. Alresford and Petersfield. 22. St. George's in the East, London. 23. Northampton. 24. Staines and Uxbridge. 25. Rutlandshire. 26. Winchester. 27. Penkridge. 28. Canterbury. 29. Salisbury.

TABLE X.

Total Births in Seven Years in England, 3,636,383. *Male Births in* 1,000,000, 512,504.

No.	Number of Recorded Births. (Average of Six Years.)	Males Born in 1,000,000 Births. (By Observation.) Average of Six Years, 1839–44.	Maximum, Minimum, and Range in Six Years, 1839–44.	The same by Calculation. (Formula I.)*	Limit of Error, in excess or defect.	The same by Calculation. (Formula II.)†	Limit of Error, in excess or defect.
1	515,478	512,904	Max. 514,809	500,624	....	513,528	....
			Min. 511,781	499,376	000,624	512,280	000,624
			Range 3,028	1,248	....	1,248	....
2	76,721	513,242	Max. 515,985	505,099	....	518,242	....
			Min. 510,557	494,901	005,100	508,142	005,100
			Range 5,428	10,198	....	10,200	....
3	61,903	512,643	Max. 515,808	505,657	....	518,300	....
			Min. 507,642	494,343	005,657	506,986	005,657
			Range 8,166	11,314	....	11,314	....
4	59,422	511,489	Max. 513,812	505,831	....	517,320	....
			Min. 509,491	494,169	005,831	505,658	005,831
			Range 4,321	11,662	....	11,662	....
5	53,825	512,375	Max. 515,244	506,083	....	518,458	....
			Min. 510,453	493,917	006,083	506,292	006,083
			Range 4,791	12,166	....	12,166	....
6	52,656	511,825	Max. 514,210	506,164	....	517,989	....
			Min. 509,368	493,836	006,164	505,661	006,164
			Range 4,842	12,328	....	12,328	....
7	44,290	512,085	Max. 519,268	506,708	....	518,793	....
			Min. 508,978	493,292	006,708	505,377	006,708
			Range 10,290	13,416	....	13,416	....
8	37,764	510,472	Max. 515,455	507,280	....	517,752	....
			Min. 507,205	492,720	007,280	503,192	007,280
			Range 8,250	14,560	....	14,560	....
9	36,451	513,910	Max. 519,801	507,416	....	521,326	....
			Min. 510,778	492,584	007,416	506,494	007,416
			Range 9,023	14,832	....	14,832	....
10	32,212	512,186	Max. 514,626	507,874	....	520,060	....
			Min. 509,765	492,126	007,874	504,312	007,874
			Range 4,855	15,748	....	15,748	....
11	27,916	514,896	Max. 517,735	508,485	....	523,381	....
			Min. 511,330	491,515	008,485	506,411	008,485
			Range 6,405	16,970	....	16,970	....
12	16,727	514,608	Max. 516,753	510,954	....	525,562	....
			Min. 512,006	489,046	010,954	503,654	010,954
			Range 4,747	21,908	....	21,908	....
13	15,771	512,181	Max. 516,439	511,269	....	523,450	....
			Min. 507,767	488,731	011,269	500,912	011,269
			Range 8,672	22,538	....	22,538	....
14	14,256	511,478	Max. 516,997	511,832	....	523,310	....
			Min. 506,651	488,168	011,832	499,646	011,832
			Range 10,346	23,664	....	23,664	....
15	11,894	512,815	Max. 522,582	512,961	....	525,776	....
			Min. 497,945	487,039	012,961	499,854	012,961
			Range 24,637	25,922	....	25,922	....
16	10,011	512,330	Max. 519,205	514,107	....	526,437	....
			Min. 505,996	485,893	014,107	498,223	014,107
			Range 13,209	28,214	....	28,214	....

TABLE X.—*Continued.*

No.	Number of Recorded Births. (Average of Six Years.)	Males Born in 1,000,000 Births. (By Observation.) Average of Six Years, 1839-44.	Maximum, Minimum, and Range in Six Years, 1839-44.	The same by Calculation. (Formula I.)*	Limit of Error, in excess or defect.	The same by Calculation. (Formula II.)†	Limit of Error, in excess or defect.
			Max. 517,746	516,062	....	528,396	....
17	7,760	512,334	Min. 508,166	483,938	016,062	496,272	016,062
			Range 9,582	32,124	....	32,124	....
			Max. 522,690	518,330	....	530,664	....
18	5,940	514,275	Min. 507,188	481,670	018,330	494,004	018,330
			Range 15,502	36,660	....	36,660	....
			Max. 517,260	522,781	....	531,569	....
19	3,854	508,788	Min. 496,915	477,219	022,781	486,007	022,781
			Range 20,345	45,562	....	45,562	....
			Max. 519,824	531,369	....	534,641	....
20	2,032	503,272	Min. 485,030	468,631	031,369	471,903	031,369
			Range 34,794	62,738	....	62,738	....
			Max. 541,256	535,228	....	550,786	....
21	1,612	515,587	Min. 500,000	464,772	035,228	480,388	035,199
			Range 41,256	70,456	....	70,398	....
			Max. 518,619	536,332	....	542,497	....
22	1,515	506,165	Min. 480,771	463,668	036,332	469,833	036,332
			Range 37,848	72,664	....	72,664	....
			Max. 524,281	543,715	....	549,897	....
23	1,047	506,193	Min. 495,274	456,285	043,715	462,489	043,704
			Range 29,007	87,430	....	87,408	....
			Max. 532,184	548,280	....	565,827	....
24	858	517,578	Min. 498,195	451,720	048,280	469,329	048,249
			Range 33,998	96,560	....	96,498	....
			Max. 527,246	552,631	....	557,122	....
25	722	504,491	Min. 466,942	447,369	052,631	451,860	052,631
			Range 60,304	105,262	....	105,262	....
			Max. 545,031	557,026	....	573,440	....
26	615	516,449	Min. 492,228	442,974	057,026	459,458	056,991
			Range 52,803	114,052	....	113,982	....
			Max. 554,113	567,727	....	583,211	....
27	436	515,557	Min. 493,333	432,273	067,727	447,903	067,654
			Range 60,780	135,454	....	135,308	....
			Max. 556,180	573,722	....	593,267	....
28	368	519,599	Min. 482,500	426,278	073,722	445,931	073,688
			Range 73,680	147,444	....	147,336	....
			Max. 543,798	585,907	....	595,711	....
29	271	509,833	Min. 436,782	414,093	085,907	423,955	085,878
			Range 107,016	171,814	....	171,756	....

* Formula I. is based on the assumption that the chances of two events (in this case, a male or female birth) are equal. The formula is $\sqrt{\frac{2}{\mu}}$ where μ = the total average births for one year, as given in the second column of the Table.

† Formula II. is the well-known formula for calculating the limits of error to which any number of observations on two alternative events are liable. This formula is $\frac{m}{\mu} \pm 2\sqrt{\frac{2 \cdot m \cdot n}{\mu^3}}$ where m = the total of one of the two events m and n, and μ their sum, or $m + n$.

Statistical Account of the Labouring Population Inhabiting the Buildings at St. Pancras, erected by the Metropolitan Society for Improving the Dwellings of the Poor. By Lieut.-Colonel W. H. Sykes, F.R.S.

[Read before the Statistical Section of the British Association at Birmingham, September. 1849.]

At an early period of the foundation of the Statistical Society of London, the attention of the Council and of the members of the Society was devoted to inquiries into the condition of the working classes, and of their dwellings. Mr. Benjamin Heywood, President of the Statistical Society of Manchester, in September, 1834, communicated to the Statistical Society at Edinburgh the results of inquiries into the condition of 4,102 families of working men of Manchester. It was shown that of the houses occupied 2,557 were not comfortable. The late Bishop of Norwich submitted to the Society a paper, in June, 1835, on the receipts and expenditure of labourers' families, taken from villages in Cheshire, in which was shown that the average expense per head per diem for food in the parish of Holyhead in Anglesey, was only 2*d.*, while in Cheshire it was 3*d.*, but that any expense for beer did not exist in his own parish, or other parts of Cheshire, or in the neighbouring agricultural rural counties, the beverage being water and buttermilk.

On May 15, 1837, Mr. Rawson read a paper on the State of the Poor inhabitants of Callmel-buildings, in Marylebone, London. "The average number of souls in a house was 34, and in a room $4\frac{1}{2}$; but in one room there were 13: and of 76 individuals, 61 occupied only part of a room, and of 199 rooms, 50 were occupied by more than one family." Before the Statistical Section at Liverpool, in September 1837, Mr. Langton read a paper on the Inhabited Courts and Cellars in Liverpool. The courts were 2,271, and the cellars 7,493, dark, damp, confined, and tenanted by nearly 30,000 souls. This dreadful picture excited an animated discussion upon improving the moral character of the poor by attention to their dwellings and domestic comforts.

On the 16th April, 1838, Mr. James Heywood read a paper before the Statistical Society of London, giving an account of a house-to-house visitation of 176 families in Manchester; 165 houses contained many cellars, and there were 11 separate cellars, 34 were just comfortable, 37 uncomfortable, and 9 wretched.

In June, 1838, the Statistical Society of Bristol communicated the results of an inquiry into the condition of 275 poor families occupying 166 houses: 123 families occupied one room, 105 had two rooms, and 47 had three or more. There were 1,049 souls, of whom 576 were children. In 54 houses there were no privies, and in 83 no water, or an insufficient supply, and in 58 no drains, or they were stopped up, and 149 rooms were close and confined.

In July, 1838, Mr. J. P. Kay, Assistant Poor Law Commissioner, gave an account to the Statistical Society of the state of 539 families in Norfolk and Suffolk. At the British Association at Newcastle, in August, 1838, Mr. Cargill gave a Report, embracing, amongst other subjects, the condition of the lower classes. It contains the following paragraph:—"In many parts of the parish our Assistant found the

dwellings close, dirty and miserable, without the semblance of order or comfort, whole families often occupying a single room, and living in an atmosphere to him of a nature totally unendurable."

In December, 1838, a Committee of the Statistical Society of London reported upon the State of Education in St. George's, St. James', and St. Ann, Soho, having formerly reported upon the parishes of St. Martin's-in-the-Fields and Strand Union. The condition of the dwellings was less an object than the state of education; but 3,891 poor families were visited, and cases of most distressing poverty generally spoken of, but details not given.

At the meeting of the British Association, in August, 1838, Mr. Mc Doull reported upon 309 cottages at Ramsbottom, near Bury, one of the best districts in Lancashire. In 137 there was one bed-room only, and in 172 there were two; in 137 families, each had only one bed-room occupied by 777 individuals, and 172 families had two bed-rooms occupied by 1,223 individuals. Some of the families occupying one bed-room consisted of from 8 to 13 individuals!

Similar reports are made from Penzance,—from three parishes in Rutlandshire,—by the Statistical Society of Manchester, in which is the following revolting comparison of the bed accommodation in the villages of Egleton and Branstown in Rutland, and Dukenfield and Bury, in Lancashire:—

Egleton, &c.,	14	per cent. of the families have *more*	than 3 persons to a bed.
Branstown	19	,,	,,
Dukenfield	33	,,	,,
Bury	35	,,	,,

Mr. Bowles Fripp communicated an elaborate paper to the Statistical Section at the British Association, on the 29th August, 1839, on the Condition of the Working Classes in Bristol, exhibiting the condition of 6,000 families, and upwards of 20,000 persons; 3,028 houses were examined: 556 families occupied part of a room only, and 2,244 families had each only one room, the *average* number to a family being 3·46 souls. The state of the privies, drains, ventilation, and supply of water, was generally very bad or defective. In October, 1839, a Statistical Committee of the Town Council of Leeds gave a Report upon the Condition of the Town and Inhabitants. It will suffice to quote the following passage:—"In some instances there are from 5 to 6 persons in each bed; that there are generally two or three, and frequently without separation of the sexes, or consideration as to age, brother and sister up to adolescence, sleeping commonly in the same room, and not unfrequently in the same bed."

On the 16th March, 1840, a Committee of the Statistical Society of London reported upon the State of the Working Classes in the Parishes of St. Margaret and St. John, Westminster: 275 families had 389 beds, but as the families consisted of 1,112 persons, there were about three persons to a bed. Whole families were congregated in one room, and of these there were 3,892; and 1,053 families had two rooms. The average amount of weekly rent was 2*s.* 11$\frac{3}{4}$*d.* It was in this Report that the first suggestion was made, in the terms of the Report, "*of the outlay of a moderate amount of capital in the erection of buildings containing sets of rooms suited to the accommodation of labouring families in properly selected situations. For these dwellings*

weekly rents should be required from the tenants, and a profit may in this manner be reasonably expected from capital judiciously invested, while advantages of still greater importance, both physical and moral, would be gained to society from the removal of a serious cause of discontent among the working classes, and from the provision of a more correct and convenient arrangement of their household comforts, which very naturally assist in the foundation of a superior moral character."

This brings me to the object of the present paper. I have only quoted Reports brought into connexion with the Statistical Society of London, or the Statistical Section of the British Association; but there are numerous other instances of local investigation, all showing the miserable dwellings of a great portion of the labouring classes, and not the least was the Parliamentary Committees appointed to inquire into the Health of Towns. It was scarcely possible these reports, read as they were at public meetings, and subsequently printed, should fail to attract the notice of some of the many benevolent and practical men in England. Sir Ralph Howard, Lord Morpeth, Lord Ebrington, Mr. F. M. Gibson, Lord Grosvenor, Lord Claud Hamilton, Mr. J. W. Tottie, and others, shortly associated themselves together for the purpose of forming a "Metropolitan Association for the Improvement of the Dwellings of the Poor." A prospectus was issued, in which the following objects were set forth :—

"The object of this Association is to erect dwellings for the working classes, combining in their construction the several improvements in drainage, ventilation, a due supply of water, and such other advantages as shall be calculated to render their sanitary condition as complete as may be practicable.

"The evidence produced before the Parliamentary Committee appointed to inquire into the health of towns, disclosed a state of circumstances connected with the domestic habits and dwellings of the poorer classes in the metropolis, and other densely-populated districts, fearful to contemplate, and urgently calling for a remedy.

"Many districts tenanted by the industrious classes do not possess a single sewer, or means of drainage of any kind. In numerous cases, whole families—parents, sons, and grown-up daughters—and in some, even two or three families, reside together, day and night, in a single room : and for this miserable accommodation, the most extravagant rents are paid.

"The rate of interest to be paid to the shareholders is not to exceed 5*l.* per cent. per annum.

"*The liability of the shareholders is limited to the amount of their respective shares.*

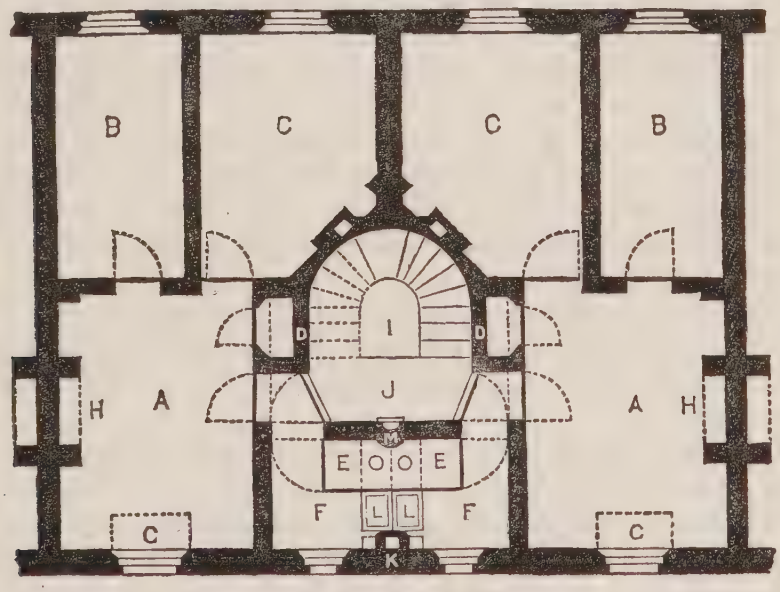
"It is confidently believed that the object of this Association may be carried into effect, so as to afford to the working classes healthy and comfortable dwellings on reasonable terms, and to remunerate the shareholders with an interest of 5*l.* per cent. per annum."

Many philanthropic individuals came forward at once with their aid. Messrs. G. W. Alexander and Sir R. Howard took 50 shares each; the Rev. Mr. Blakesley, Samson Ricardo, and J. C. Sharp, 40 shares each; Lord Morpeth and W. B. Moffatt, 30 shares; Messrs. Barclay, Charles Carpenter, Lord Ellesmere, Edward Enfield, R. Franklyn, R. Gillum, Rev. C. Girdlestone, B. Sharpe, Rev. C. Which-

cote, W. A. Wilkinson, and Lord Dartmouth, 20 shares each; and the subscriptions of ten shares each were very numerous. In a work for ameliorating the condition of the poor, it was not likely the aid of British ladies would be wanting, and we accordingly find the names of numerous matrons and spinsters enrolled in the cause. The Duchesses of Sutherland, Norfolk, and Beaufort; Ladies M. Keppel, M. Bouverie, Ellesmere, Dowager Grenville, C. Greville, M. Fitzalan Howard, Wenlock, C. Cavendish, and Abercorn, and others. Mistresses Clarke, Devonport, Fletcher, Ommaney, Pennant, Bowles, Scott, Teed, Ware, Mather, and others. Misses Baylen, Benson, (10), Buchwald, Gatliff, Gilman, Girdleston, Sharpe, Spaling, Hare, Whichcote, (10); Wilkinson, Mether, Talbot, Bosanquet, Tydell, Brown, Taylor, Reed, Alexander, Hepburn, and Payne,—indeed, the spinsters muster very strong for good; and I have purposely introduced the names of ladies, to show how honourably to themselves, and how efficiently they are enabled to promote a good cause.

The state of the subscriptions was sufficiently encouraging. A royal charter was obtained on the 16th October, 1845, limiting the profits to 5 per cent. A plot of ground was bought, and a building raised capable of giving accommodation to 110 families, in sets of two and three rooms each, with separate scullery and water closet, an ample supply of water, dust-shaft descending to a common receptacle, and other conveniences. The following is the plan and scale of rents.

Plan of One Floor of the Houses containing distinct accommodation for Two Families.



REFERENCE.

AA—Sitting-room, 14 ft. by 10 ft. 6 in. BB—Bed-room, 12 ft. 11 in. by 6 ft. 10 in. CC—Bed-room, 12 ft. 11 in. by 9 ft. 7 in. DD—Closets, with Coal-box underneath. EE—Water-closet. FF—Scullery. GG—Shutters, forming a table during the day. HH—Ranges, Boilers, and Ovens. I—Staircase. J—Landing. K—Dust-shafts. LL—Sinks. M—Recess for Soil, Gas, and Water-pipes.

All the dwellings were to be let at the undermentioned rents, which circumstance, coupled with the fact, that the "Lodging-house for Single Men" in George-street, Holborn, is always fully occupied, shows that

the working classes gladly avail themselves of improved accommodation if offered to them, and affords to the shareholder the reasonable assurance of the due payment of the interest of 5 per cent., rendering the investment of capital on the security of the Association, eligible as such, if even divested of the humane and social considerations on which it is founded. The basis of the security is freehold and long leasehold estate, in the midst of large populations, and after allowing for the charges of management, (the bearing of which will become lighter, as the Association becomes larger,) and the payment of dividends, it is hoped and expected that an annual surplus will accrue, to be applied, under the terms of the charter, to the increase of the buildings. The security to the shareholders will thus be fortified by additions to the capital, without augmenting the claims for dividend.

Scale of Rents.

2	sets of	2	rooms	at	3*s.*	6*d.*	per week.	2	sets of	3	rooms	at	4*s.*	9*d.* per week.
4	,,	2	ditto	,,	3	9	,,	5	,,	3	ditto	,,	5	0 ,,
5	,,	2	ditto	,,	4	0	,,	15	,,	3	ditto	,,	5	3 ,,
3	,,	2	ditto	,,	4	3	,,	24	,,	3	ditto	,,	5	6 ,,
2	,,	2	ditto	,,	4	6	,,	26	,,	3	ditto	,,	5	9 ,,
2	,,	2	ditto	,,	4	9	,,	12	,,	3	ditto	,,	6	0 ,,
2	,,	2	ditto	,,	5	0	,,	6	,,	3	ditto	,,	6	3 ,,

N. B.—Every set of rooms is furnished with boiler, range, oven, and a coal-box, in the lower part of the cupboard; and there is also a scullery attached to each set, containing sink, cistern, water-closet, and dust-shaft.

The Directors subsequently purchased a piece of freehold land at the end of Spicer-street, Brick-lane, Spitalfields, of sufficient extent on which to erect a lodging-house capable of accommodating 300 *single men, and also houses somewhat similar to those in the Old St. Pancras-road, suitable for families*, and they appeal with confidence to all who may be desirous of co-operating in a work of much social good, to contribute to the capital so urgently required: involving no liability to each party beyond the amount of shares subscribed for by such party, and with the promise of an advantageous return, when compared with many other classes of investment.

The Prospectus adds, "Persons taking shares will not be required to pay the amount already called from the present shareholders in larger instalments than 5*l.* in any one payment, at intervals of not less than three months.

"*Parties desirous of paying up the full amount of their shares at once, may do so, in which case they will be entitled to the same dividend on their shares, as the general body of shareholders paying their calls from time to time, and the overplus of the paid-up shares which has not been called, will be invested in the public funds, and the dividends thereon paid to the parties so paying in full.*

"The terms of the charter do not restrict the operations of the Association to the metropolis, and the Directors have made arrangements for imparting the benefits, privileges, and immunities, granted by the charter, under this Association, to branch societies in districts wherever a sufficient number of shareholders shall be desirous of erecting improved dwellings for the industrious classes. The effect of these arrangements will be to ensure (as far as possible) the success of local undertakings, at the same time that those benevolent individuals who

may be disposed to subscribe for the benefit of their respective neighbourhoods will be made secure against all individual claim and liability whatsoever. Application has already been received from the parish of Hampstead to be admitted as an incorporated Branch Association, and similar applications are expected from other quarters."

On the 6th March, 1846, the Directors of the Metropolitan Association made their first Report to the shareholders. It comprised little more than a resumé of past labours; congratulated the shareholders on the removal of all difficulties, spoke of the subscriptions as a safe investment, and determined that a guarantee fund for the payment of the 5 per cent. was an essential part of the plan; stated that 1,000 shares had been subscribed for out of 4,000; but as the operations of the Association was not limited by charter to London, the Directors hoped to see the principle extended to other cities and towns.

In the second Report, dated 2nd December, 1846, the Directors stated that 28,676*l.* had been subscribed, and a certificate from one of the Secretaries of the Board of Trade authorized the Association to commence operations. In consequence the Directors say,—"An agreement for a lease for ninety-nine years, at a rental of 90*l.* per annum, has been entered into with the Brewers' Company, for a piece of ground opposite the church in the Old Pancras-road, leading from King's Cross to Camden Town, which is considered well adapted to the purposes of the Association; being situate in the immediate neighbourhood of a crowded district, having the advantage of streets on three sides, as well as an open space at the back, whereby good natural ventilation is obtained; and from the elevated position of the site, and its proximity to good sewers, a perfect drainage will be secured.

"With regard to the internal arrangement of the dwellings, the object kept in view has been to give to each family the greatest amount of accommodation at the lowest practicable expense.

"The rooms are so contrived, that an ample quantity of light is secured to each, while the dwellings are kept quite distinct and independent of each other, every family being provided with a separate water-closet. There are provided for each dwelling a supply of water, at the rate of forty gallons per day, a sink, and the means of carrying off ashes and refuse through a shaft, accessible from the scullery. The building will consist of twenty-one sets of two rooms, and ninety sets of three rooms of various sizes, each having the above conveniences attached; thus furnishing dwellings proportioned to the requirements of different families, and to their means of payment. In cases where there are two bed-rooms, each bed-room has a separate entrance from the sitting-room, and the larger bed-room has a fireplace.

"In the centre houses there is a small lobby between the outer and the sitting-room doors, and from this lobby the scullery is entered, the outer door shutting it off when any one is entering the sitting-room or house part, and the sitting-room door at all times excluding it. The water-closet is situate immediately on entering the scullery, the door of the former being so hung, as when open to shut off access to the scullery. The scullery is in communication with a ventilating shaft, to take off any effluvia arising therein.

"Under the slate sink in each scullery is a galvanized iron coal-box; and a meat safe is fixed against an external wall, in which an air-brick is placed.

"The living-rooms will be furnished with a range, boiler, and oven; and the shutters in the ground floor rooms are so contrived as to form a table during the day.

"There is a considerable space in the front of the building formed by the projection of the wings, which will be inclosed by plain iron rails, and afford a protected space for the children of the residents.

"A large space is also left at the back for a drying-ground."

At this early period the question of the window-tax upon the proposed building became a matter of serious consideration. The Directors state, "We have bestowed much time on the question of the window-tax, as bearing upon the dwellings proposed to be erected by the Association; and though this tax, according to the present mode of assessment, will bear heavily upon the tenants, they confidently hope that an alteration in the mode of rating will shortly be effected.

"According to the present mode of assessment, each set of rooms having four windows (being a portion of a large house having forty windows,) is liable to $7\frac{1}{4}d.$ per week window duty; while a similar set of rooms or chambers in the same sized house, situate in the Albany, in Piccadilly, or in the Inns of Court, or in either of the Universities, is liable to a tax of only $1\frac{3}{4}d.$ per set; this arises from a special exemption in the Act, operating to the foregoing extent in favour of the buildings for the wealthier classes.

"The Directors also find that an expense of 470*l.* will be incurred for cisterns alone, for the supply of water to the dwellings, such expense arising from the Water Companies giving their supply on the intermittent system, instead of the constant supply from the main, the latter system being in operation at Nottingham, Preston, and Ashton. At the former town, according to the evidence of Mr. Hawkesley, not only is the expense of cisterns saved, but the annual charge is only 4*s.* 4*d.* per annum, or 1*d.* a-week, while here it is, at the least, 14*s.* 6*d.* per annum.

"The Directors earnestly hope, that in any measures brought before Parliament, the shareholders will keep their attention fixed on these two points, which so deeply affect the interests of the working classes."

In conclusion, the Directors state that the first minutes of the Association were in September, 1842. In 1842 the number of shares taken was 4, in 1843 it was 23, in 1844 it was 252, in 1845 it was 469, and to the date of the Report 407, making a total of 1,155 shares taken. The progress was slow, but the English public very properly, even in an undertaking of this kind, viewed a prospectus for raising a capital of 100,000*l.* in 10,000 shares for building purposes with some doubt and suspicion.

To this Report the first balance-sheet was annexed. 2,094*l.* 3*s.* 7*d.* had been spent, and of this 1,139*l.* 7*s.* 8*d.* was paid at the Home Office for charter and law charges.

The third Report of the Directors is dated 23rd December, 1847. It does little more than state that the building is fast approaching to completion, and will be fit for occupation in February, 1848; and that in its then unfinished state 62 sets of the rooms had been applied for.

The Directors again recur to the unjust pressure of the window-tax in the following words:

"A deputation from the Directors had an interview with the Chancellor of the Exchequer on the 15th of November last, on the subject of a reduction in the window duty on these dwellings. This tax, as at present assessed, presses with great severity on dwellings of this class. None of these houses have more than four windows; were each house a separate cottage, it would be entirely exempt from the tax; but from the present mode of assessment, ten of these dwellings are charged at the rate of a forty-windowed house. The deputation were informed that if the Association would submit clauses which would relieve their dwellings from the operation of the tax, and at the same time protect the revenue from loss, by parties being admitted to the exemption who let lodgings to tenants of a higher class, or who let lodgings to the working classes, without affording the like sanitary arrangements, such clauses would receive consideration.

"Your Directors therefore feel that as your objects were appreciated and promoted by the late advisers of the Crown, so Her Majesty's present advisers are equally disposed to aid your efforts for the improvement of the dwellings of the industrious classes; and the Directors therefore call upon the Association to use their best exertions to enable the Government to carry any measure that may be introduced, for admitting to the habitations of the poor an unlimited supply of light and air."

The Directors add to this Report a recommendation to the expediency of erecting a dormitory for single men, similar to that established in George-street, Bloomsbury, by the Labourers' Friend Society, which has been attended with the greatest success, nearly every bed being occupied nightly in that establishment; but previously to coming to a determination on this point, they wish to consult the shareholders on a measure which will entail the necessity of an additional call.

It may be as well to state that the estimate of cost of such a building, and the probable remuneration, which was exhibited in the original Prospectus of this Association, is fully borne out by the experience of the Society above referred to.

A balance-sheet is added, by which it appeared that 9,505*l.* 9*s.* had been expended upon the building, and the total number of shares subscribed for was 1,181.

The fourth Report of the Directors is dated 30th May, 1848. They congratulate the shareholders in strong terms "that the principle which they have so long sought to establish, (viz., that money invested in improving the dwellings of the industrious classes would yield ample return on the capital invested,) is fast gaining ground.

"In proof of this they refer with pleasure to the sentiments expressed by His Royal Highness Prince Albert, at the Annual Meeting of the Society for Improving the Condition of the Labouring Classes, held at the Freemasons' Tavern on the 18th instant. That Society now advocates, to some extent, the views first promulgated by the Metropolitan Association in the year 1841, and the following extract from the speech of His Royal Highness may be considered to be the expression not only of the sentiments of His Royal Highness, but also those of the Sovereign, in favour of the principle on which this

Association is founded. His Royal Highness said, 'I have just come from the Model Lodging-house, the opening of which we celebrate this day, and I feel convinced that its establishment and prosperity will, by degrees, and at no remote period, occasion a most beneficial improvement in the domestic comforts of the labouring classes. It will exhibit to them that with real economy can be combined advantages which few of them have hitherto been acquainted with, while it will show to those who possess capital that they may *invest it with great advantage and profit to themselves*, in consulting the convenience and dispensing comforts to their poorer brethren. Depend upon it that the interests of often contrasted classes are identical, and it is only ignorance which prevents their uniting to the advantage of each other.'"

The Directors report the completion of the building, and that of the 110 sets of rooms 103 were let, the number of applicants being 197, some of whom were refused from want of proper references.

The different professions and trades of the occupants are as follows, viz., carpenters, cabinet-makers, pianoforte-makers, musical instrument-makers, printers, compositors, clerks, jewellers, engravers, silver plate-workers, chasers, plate-polishers, watchcase-makers, artists, engineers, mason, brush-maker, leather-cutters, cork-cutters, railway policemen, tailors, porters, painters, grainers, coach-makers, blind-makers, gold-beater, coachman, cutler, postman, collectors to institutions, copper-plate-printer, ironmongers, whip-makers, pattern-designers, city missionaries, type-founders, chair-makers, stationers, carver and gilder, pensioner, teacher, baker, and needlewomen, and some few who do not follow any trade or profession.

Up to that time they had not had a single default in payment of the rent, and general satisfaction was expressed by the tenants with the extra comforts and accommodation afforded them.

The Directors had been unsuccessful with the Government in getting the window-tax reduced.

With reference to their former recommendation, they stated that they had purchased a freehold piece of ground for 1,300*l.*, in Spital-fields, upon which to build a house, or dormitory, for single men, and to comprise the lodgment also of 40 families at least. 1,258 shares had been subscribed for up to the date of the Report.

The balance-sheet shows that the buildings had cost 13,252*l.* 17*s.* 11*d.*

The last Report is dated May, 1849. It is the first occasion in which the details of a year's occupation can be given, and they are satisfactory throughout. The Directors say, "It affords your Directors great satisfaction to state that all the dwellings have been occupied, almost without interruption, from the date of their completion, and several applicants have been, and still are waiting for vacancies. 59 families have continued tenants since their respective dwellings were ready for occupation in January, February, March, and April, 1848. The total number of tenants has been 173, several of whom having left their apartments have subsequently wished to return. It is gratifying to your Directors to make this statement, and they have pleasure in being enabled to add, that not only have the tenants expressed themselves pleased with the superior comforts and accommodation afforded to them; but have also proved, by regularly paying their rents, and their general strict observance of such rules as your Directors have

thought proper to lay down for the management of so large a building, *that they are desirous of assisting them in preserving a high character of respectability in its occupants.*" The last trait mentioned by the Directors is of extended bearing and importance; it holds out a prospect that not only will such communities be advanced in their physical and social condition, but that a feeling will originate within themselves to maintain a certain moral standing; a certain pride of character, which will neither permit individuals nor their neighbours in the community from offending against a public sentiment. If such an amount of good alone resulted from similar institutions, there would be a well-grounded hope that the efforts of philanthropists, as well as practical men, would be greatly facilitated for the regeneration, the reorganization, or, at least, for an immense improvement in the moral and social condition of the labouring classes, upon whose well-being so much of the happiness and power of States depend.

"The Directors annex a balance-sheet, a general statement of receipts and expenditure, as in the fourth report, and, for the first time, a revenue and expenditure account; which latter shows the receipt of 1,382*l.* 12*s.* 4*d.* on account of rents, a sum which does not amount to so much as the total lettings would produce for an entire year; this is accounted for by the fact that some of the dwellings were not ready for occupation until the end of the month of June. For the week ending 15th May, 1848, the actual receipts amounted to 20*l.* 6*s.*, 29th May, 23*l.* 1*s.* 6*d.*, 19th June, 25*l.* 13*s.* 2*d.*, 3rd July, 26*l.* 16*s.* 2*d.*, and on the 10th July, 1848, 29*l.* 1*s.* 8*d.*, being about the average weekly rental. The rental, therefore, produced during this year must not be looked upon as the result of a year's lettings at the original scale of rents, viz., 1,527*l.* 10*s.*, although it is the full equivalent for the actual time of occupation. The experience of the year leads your Directors to anticipate that this rental may be increased.

"In addition to the sum of 1,382*l.* 12*s.* 4*d.* received on account of rents, the sum of 443*l.* 10*s.* 6*d.* has accrued as interest on Exchequer Bills, which with a sum of 1*l.* 19*s.* received for fees on transfers, gives a total income of 1,828*l.* 1*s.* 10*d.*

"From these gross returns, after deducting actual expenditure at the dwellings in the Old Pancras Road, amounting to 695*l.* 11. 9*d.*, and reserves, viz., 102*l.* 3*s.* 11*d.* for repairs, 35*l.* for a sinking fund to meet the cost of the St. Pancras Buildings, (which sum, at 3 per cent. compound interest, will realize, at the expiration of the lease of ninety-six years, 18,725*l.* to replace that investment,) also deducting 99*l.* 16*s.* 5*d.*, the balance due against these buildings at the date of the last audit, the *whole* of the expenses for the year amounting to 536*l.* 12*s.* 5*d.*, for printing, advertising, petty cash, rent, and salaries, there remains 358*l.* 17*s.* 4*d.* of available income for division amongst the shareholders. Of this sum your Directors recommend that 328*l.* 6*s.* be applied in payment of a dividend at 1 per cent. on 32,830*l.* 10*s.*, the capital already called up, and that the balance of 30*l.* 11*s.* 3*d.* be carried to the guarantee fund account, authorised by the 33rd clause of the charter. It will be observed, on reference to the general statement, that of this sum of 32,830*l.* 10*s.* only 17,225*l.* 5*s.* 3*d.* have as yet been invested in carrying out the objects of this Association; a considerable portion of the remainder having been invested in Exchequer Bills. The invest-

ment in dwellings, therefore, as appears by the revenue account, shows a net return of $3\frac{1}{4}$ per cent. within 10*l.*, after providing for the annual outgoings chargeable on them, to the extent of 832*l.* 15*s.* 8*d.* Had the whole of the dwellings been ready for occupation during the entire year, the experience of the last nine months proves that full 1,527*l.* 10*s.* would have been received; deducting the same outgoings, from which a balance would have remained, showing 4 per cent. and a surplus of 5*l.* 14*s.* 4*d.* on the money expended on these dwellings.

"The working expenses of the Association, although they are now on a very moderate scale, will allow of considerably extended operations, without any material increase; so that when a larger amount of capital is employed in new buildings, the profit remaining for division will be proportionately greater.

"From the foregoing financial statement it is also evident that the increase of the capital to the full extent allowed by the charter, is desirable, even were there no other object in view than the pecuniary return; but your Directors are satisfied that you will feel, with them, that the statement they are enabled to make, with respect to the working of the St. Pancras Buildings, is of the most gratifying nature, forming strong ground for your using every endeavour to place new shares amongst your friends, at the same time that it shows a fair field for the investment of capital in a mode which will tend to the preservation of health and comfort to the honest artizan."

Three hundred and thirty-nine shares were taken in 1848, and the total number at the date of the Report was 1,527. The St. Pancras Buildings up to that date had cost 17,225*l.* 5*s.* 3*d.* For the fourth time the Directors failed with the Government to obtain a remission of the window duties.

The Directors, on this occasion, submit a plan of the whole of the ground purchased near Spicer Street, showing the relative positions of the dormitory in the course of erection, and the proposed dwellings for families; and call attention to the great advantages of having the buildings so contiguous; the lecture room used on an evening by the tenants of the dormitory, serving as a school room during the day for children residing in the dwellings; and the families, by distinct approaches, and at stated hours, having the use of the baths, wash-houses, and the cook's shop in the dormitory, the heat from the flues of which furnishes an inexpensive mode of ventilation.

Having shown the facts and feelings which originated this Association, shown its progress to its object, and the realization of so much of that object, as fully justifies entire confidence in the entire success of the whole measure, it now remains to consider how far, in addition to certain physical and economical advantages, this Association acts as an efficient auxiliary in the great efforts now making to improve the sanitary condition of towns. The best test for this would be the health of the population inhabiting the buildings of this Association; and I accordingly requested the Honorary Secretary, Mr. Gatliff, to have drawn out for me a weekly return, for one year, of the inhabitants, showing the male and female heads of families, children, weekly changes of population, number of deaths and previous occupation, age, and disease. Mr. Gatliff, with great zeal for the welfare of the institution, supplied this return in a few days. The weekly outgoings and

incomings rendered it a somewhat complicated matter to determine accurately the per centages of deaths, and I consulted my friend Mr. Neison, who pointed out the proper mode of coming at the results in a satisfactory manner.

Hence it is seen that there has not occurred a single case of cholera, although the fatal disease is all around the buildings.

Having viewed the picture in detail in which a population is represented as comfortably housed, with the proper accompaniments of ventilation, proper supply of water, and cleanliness, let us turn to a state of things, the contrast of this picture.

In December, 1847, a committee of the Statistical Society of London inspected the dwellings, room by room, and condition of the inhabitants of Church Lane, St. Giles's, London. On the 17th January, 1848, their report was made to the Statistical Society. Church Lane is 290 feet long, 20 wide, and contained 30 houses. The population examined was 463, the number of families 100, and the number of bedsteads amongst them 90. There was an average, therefore, of above 5 souls to a bed; and many rooms were inhabited by as many as 22 souls, without water, without drainage, and without privies. The whole condition of these people was so revolting that the committee concluded their report in the following terms:

"Your Committee have thus given a picture in detail of human wretchedness, filth, and brutal degradation, the chief features of which are a disgrace to a civilized country, and which your Committee have reason to fear, from letters that have appeared in the public journals, is but the type of the miserable condition of masses of the community, whether located in the small, ill-ventilated rooms of manufacturing towns, or in many of the cottages of the agricultural peasantry. In these wretched dwellings all ages and both sexes, fathers and daughters, mothers and sons, grown up brothers and sisters, stranger adult males and females, and swarms of children, the sick, the dying, and the dead, are herded together with a proximity and mutual pressure which brutes would resist; where it is physically impossible to preserve the ordinary decencies of life; where all sense of propriety and self-respect must be lost, to be replaced only by a recklessness of demeanour which necessarily results from vitiated minds; and yet with many of the young, brought up in such hot-beds of mental pestilence, the hopeless, but benevolent, attempt is making to implant, by means of general education, the seeds of religion, virtue, truth, order, industry, and cleanliness; but which seeds, to fructify advantageously, need, it is to be feared, a soil far less rank than can be found in these wretched abodes. Tender minds, once vitiated, present almost insuperable difficulties to reformation; bad habits and depraved feelings gather with the growth and strengthen with the strength. It is not properly within the province of your Committee to offer suggestions, but they cannot refrain from expressing their belief, that the surest way to improve the physical and moral condition of the labouring classes, and to give education a fair field, is for wealthy and benevolent individuals throughout the country to form local associations, and by the aid of Parliament, to possess themselves of all such buildings as we have described, whether the house in the town, or the cottage in the country; to rebuild suitable roomy dwellings, properly drained, venti-

TABLE *showing the Population in the Metropolitan Buildings, Old Pancras Road, commencing at the date of the Fourth Report, (30th May, 1848, which sets out Occupation of Tenants,) and at the undermentioned Dates, Number of Deaths, Age, and previous Occupation, Cause of Death, and Number who have changed their Residences during the Month.*

Date.	Male Head.	Female Head.	Children.	No. of Population.	No. of Deaths and previous Occupation.		Age.	Disease.	No. who have left.	No. who come in.
1848.										
May 30	85	88	231	404						
to	left 7	8	20	35						
June 30	78	80	211	369						
	come in 20	21	63	104					35	104
June 30	98	101	274	473						
to	left 3	3	8	14						
July 30	95	98	266	459						
	come in 8	9	25	42					14	42
July 30	103	107	291	501						
to	left 9	9	died 1, left 26 } 27	45						
Aug. 30	94	98	264	456						
	come in 8	8	25	41	1	Child of Ann Bayman.—Mother a Brush-drawer.	18 mths.	Decline.	44	41
Aug. 30	102	196	289	497						
to	left 7	7	16	30						
Sept. 30	95	99	273	467						
	come in 6	6	10	22					30	22
Sept. 30	101	105	283	489						
to	left 15	16	died 1, left 37 } 38	69						
Oct. 30	86	89	245	420						
	come in 15	16	38	69	1	Girl. — Kingshott.—Father a Clerk.	17 or 18	Tumour.	68	69
Oct. 30	101	105	283	489						
to	left 11	11	25	47						
Nov. 30										

to Dec. 30	left 6	6	15	25						
	95	99	284	478					25	28
	come in 6	6	16	28						
Dec. 30 to Jan. 30 1849.	101	105	300	506						
	left 12	13	died 2, left 31 } 33	58	1	Male Child.—Father a Carpenter.	3 mths.	Whooping Cough.		
					1	Male Child.—Father a Doctor and Farmer.	4 mths.	Convulsions.		
	89	92	267	448					56	61
	come in 13	13	35	61	2					
Jan. 30 to Feb. 28	102	105	302	509	1	Alfred Messenger, Compositor.	28 years	Acute Mania.		
	died 1, left 7 } 8	8	died 3, left 16 } 19	35	1	Male Child.—Father (W. Turner), a Brush maker.	3 mths.	Whooping Cough.		
					1	„ „ (Chas. Frisbec), a Wood-engraver.	..			
					1	„ „ (W. Turner), a Copperplate-printer.	..	Inflammation of Chest.		
	94	97	283	474					31	31
	come in 8	8	15	31	4					
Feb. 28 to Mar. 30	102	105	298	505						
	died 1, left 4 } 5	5	died 1, left 9 } 10	20	1	— Church, Sen.—Father of Mrs. Church.	79	Liver Complaint.		
					1	Female Child.—Father (W. Turner), a Printer.	4 years	Brain Fever.		
	97	100	288	484					18	41
	come in 5	5	31	41	2					
Mar. 30 to April 30	102	105	319	526						
	left 5	5	12	22						
	97	100	307	504					22	27
	come in 5	5	17	27						
April 30 to May 30	102	105	324	531						
	died 1, left 5 } 6	5	died 2, left 24 } 26	37						
					1	Geo. Posselwhite, Engraver.	60 to 70			
	96	100	298	494	1	Male Child.—Father an Engraver and Printer.	12 mths.	Abscess.		
	come in 4	4	14	22	1	„ „ „	5 years	Croop.	37	22
	100	104	312	516	3					
	2,405	2,492								

Whole Population 2·6 per cent. Adult Population 1·47 per cent.]

lated, and supplied with water, and to rent them so CHEAP to the poor, that they shall have no excuse for herding together like animals. In this way the great evils of over-crowding may be remedied for that large class of our labouring population which is prepared to adopt habits of cleanliness and decency: but nothing short of compulsory legislation can meet the case of the low lodging-houses and rooms sub-let after the manner of those described in this Report.

"Nothing can be conceived more mischievous than the system of sub-letting in almost universal operation in the houses inspected by your Committee. The owner of the property lets his houses to a sub-landlord, this sub-landlord lets his rooms to individual tenants, and these tenants let off the sides or corners of the rooms to individuals or families. Cheap houses will go far to give the death-blow to this fatal system; and to build cheap houses, deserving of the name, appears to your Committee a work of preventive charity worthy of all encouragement."

Such an evil condition of things could have but evil results, and the Registrar-General gives the following mortality from cholera in Church Lane:—

				Metropolitan Buildings.
Week ending 11th August, 1849.	Deaths from Cholera	8	.....	None.
,, 18th ,,	,,	10	.....	None.
,, 25th ,,	,,	6	.....	None.
,, 1st September	,,	2	.....	None.
,, 8th ,,	,,	3	.....	None.
		29		

In the Registrar-General's Report, ending the 8th September, 1849, the Registrar of the district of St. Giles's has the following observations:—

"In reference to the deaths registered in the week ending Saturday, September 8th, Mr. Simpson, the Registrar, states that the deaths from all causes exceed that of any previous week, and that the mortality from cholera and diarrhœa is also larger than on any previous occasion. It is satisfactory to find that the deaths from cholera last week in Church Lane are reduced to two, independent of those occurring in the workhouse, which have been removed; but in the surrounding district they have increased. The mortality from the prevailing epidemic in Church Lane (the 'rookery,') among the poor Irish families has been excessive; it first showed itself on the 21st of July. There are 15 houses on each side of the way, and 28 deaths will be found in my returns, as follows:—In the house No. 3, Church Lane, three deaths have been registered, at No. 4, two, No. 6, two, No. 7, four, No. 8, two, No. 15, one, No. 17, one, No. 18, three, No. 20, one, No. 21, two, No. 22, two, No. 24, one, No. 27, three, and No. 28, one. Many of the inhabitants of the lane have dispersed, and the deaths of several have been registered elsewhere, independent of those removed and dying in the workhouse."

Hence it is seen that while the miserable abodes in Church Lane teemed with death, and that the consequent panic put to flight and dispersed the mass of the wretched inhabitants, there was not a single case of cholera amongst a larger population in the buildings belonging to the Metropolitan Society.

This gratifying fact, combined with the comfort in the condition of the people—the indications of a prevailing sentiment of order and propriety—and the prospective views of the parents, in securing to the great proportion of their children a certain amount of education either within their own limits or in neighbouring schools, justify the philanthropist in asserting that if the great moral evils, existing and advancing in the land in a large class of the community, are not capable of being eradicated by human agency; they are, at least, capable of very considerable amelioration, and that if those with the means, whether male or female, will either join the Metropolitan Association, or locally associate themselves together on the principles and with the objects of the Association in London for improving the dwellings of the poor, they will have the means in their own hands of making comfort, contentment, health, and gratitude take the places of wretchedness, recklessness, disease, and discontent.

On the Progress of Emigration from the United Kingdom during the last Thirty Years, with reference to the growth of the Population during the same period. By J. T. Danson.

[Read before the Statistical Section of the British Association at Birmingham, 18th September, 1849.]

The population of the United Kingdom, by the census of 1821, was 21,193,458. By the census of 1831 it was 24,306,719. The increase thus shown, 3,113,261, would have been produced by a regular annual increment of about 1·40 per cent.

By the census of 1841, the population was 26,916,991, the increase in the preceding ten years 2,610,272, and the apparent annual increment about 1·02 per cent.

But it is clear that the inference of an uniform annual increment, peculiar to each decennial period, is not justified by these figures. Nor can we properly infer any such regularity of the annual increase during the twenty years, 1821-41. But, in accordance with this limited view of the facts, we may assume that the annual increment, in proportion to the number living in the United Kingdom, was declining through the whole period. And if this be assumed, it needs but slight consideration of the figures stated to show that the absolute number added must also have been less in each year than in that next preceding.

Here, however, the emigration returns claim attention, as materially affecting any conclusion to be arrived at by such reasoning as that suggested.

The number of emigrants from the United Kingdom to all parts abroad, registered in the ten years 1822-31 inclusive, was 290,570. The returns for this period are defective upon two points, 1. For the three years, 1822-3-4, they appear to include only the emigrants to the North American colonies, the United States, and the Australian colonies, (including New Zealand,) and for subsequent years there is a further statement of the emigration to "all other places," chiefly the

Cape of Good Hope and the West Indies. Looking at the returns for subsequent years, it seems that an addition of 300 emigrants to the decennial total would probably supply the deficiency on this point. 2. The registry was discontinued altogether from 5th July to 31st December, 1831; and though nearly the whole amount of emigration, at that period, usually took place in the first half of the year, it seems advisable to add 500 to the annual total on this account. Thus the emigration of 1822-31 may be stated at 291,070.

The number of emigrants registered in the ten years, 1832-41, was 738,582.

In the seven years, 1841-48, the number was 985,953.

And in the half-year ended 30th June, 1849, it was 196,973.

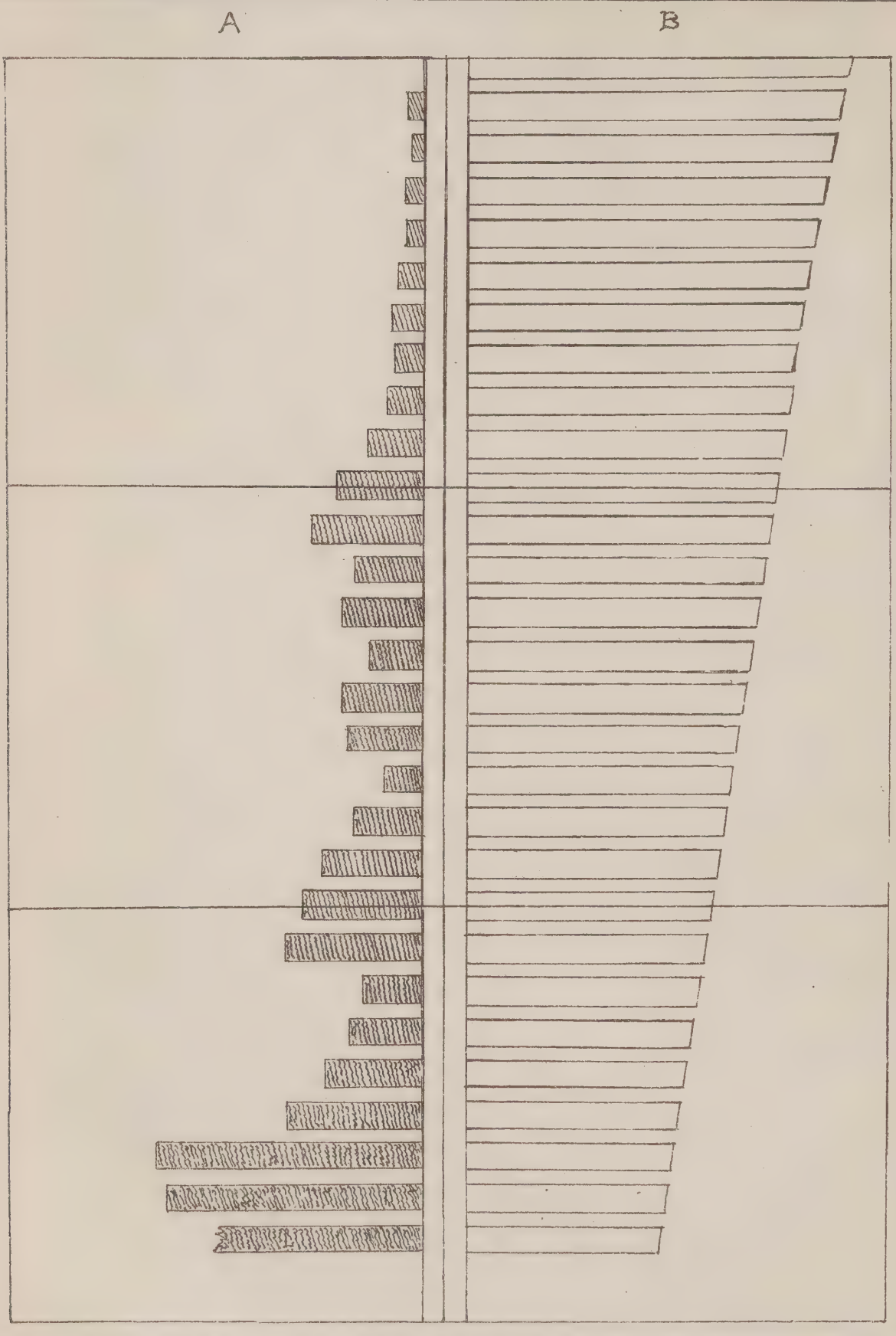
Assuming, therefore, that the increase of the home population in the seven years, 1841-48, was strictly proportionate to the increase during the preceding twenty years, the account current of population and emigration may be stated as follows:—

United Kingdom.

Population of.		Emigration from.	
In 1821	21,193,458		
Added in 10 years	3,113,261	Emigrants in 10 years	291,070
In 1831	24,306,719		
Added in 10 years	2,610,272	Emigrants in 10 years	738,582
In 1841	26,916,991		
Probably added in seven years (to June, 1849,) at the rate of 7·5 per cent. in 10 years	1,413,000	Emigrants in 7 years, 1841-48	985,953
		Emigrants in half-a-year, to 30th June, 1849	196,973
Probable population in June, 1849	28,330,000		1,182,926

It will be observed that the end of the first seven years from the date of the census of 1841, (taken in June of that year,) coincides with the latest date to which the emigration returns are yet made up; but that by including the last half-year's emigration I place seven and a half years in one column against seven years in the other. If my purpose, in preparing this short paper, had been to develope the precise influence of emigration upon population, this discrepancy would, of course, have been quite inadmissible. In like manner I take no account of the deduction from the population by loss of the natural increase of the emigrating body in each decennial interval, or of several other points of equal importance suggested by the figures as they are now arranged. My purpose, however, is simply to draw attention to the fact, that the growth of the home population, during the whole period here referred to, measured by the addition made to it in successive periods of ten years, has been declining; while the numbers emigrating, similarly compared, have been increasing; and that a continuance of the double process must, at no distant period, involve an actual diminution of the home population.

It is also remarkable, though less within the scope of my purpose, that even if we count the emigrants with the population, and allow for their increase at the rate concurrently prevalent at home, the total


A
B

increase would appear to have been greater in the first period observed, (1822-31,) than it has been in any equal period since.

Appended is a diagram, in which the annual increment of the home population is broadly compared with the annual emigration*.

In column A is shown the annual emigration, as registered, in each year from 1822 (to the end of June) 1849 inclusive; and in column B is given, in proportion, the assumed annual increment of the population at home, as deduced from the known increase in the decennial periods 1821-31 and 1831-41.

The Influence of Subdivision of the Soil on the Moral and Physical well-being of the People of England and Wales. By John Barton, Esq.

[Read before the Statistical Society of London, 16th April, 1849.]

There can scarcely be any subject of statistical inquiry more important and interesting than that of the influence of industrial occupations on the general character of the people. The extension of commerce and manufacture, the amelioration of the soil, the improvement of machinery, even the increase of national wealth and prosperity, rightly considered, are valuable only as means to an end; that end being the promotion of general happiness and virtue. We have at this day facilities for conducting this inquiry more directly and satisfactorily than existed in the days of the earlier political economists. At no period have there existed such treasures of authentic facts for this purpose as we now possess in the Population Returns, the Reports of the Registrar General, and the Tables of Mr. Porter. The rapid increase of crime since 1805, when the returns from the different Courts of Criminal Justice were first collected and published, has naturally attracted the attention of those engaged in statistical researches. But it is admitted, I think, and by none more than those who have laboured most diligently and successfully in the inquiry, at the causes of this painful and alarming change in our social position are not yet thoroughly understood. I propose in this communication to advert to one element of the question, which has not yet, so far as I know, been taken into consideration, though it appears to me well calculated to throw light on the subject. This is the greater or less subdivision of the soil.

* The numbers of registered emigrants from the United Kingdom, annually, as referred to in the text, were as under:—

1822	12,349	1831	83,160	1840	90,743
1823	8,860	1832	103,140	1841	118,592
1824	8,210	1833	62,527	1842	128,344
1825	14,891	1834	76,222	1843	57,212
1826	20,900	1835	44,478	1844	70,686
1827	28,003	1836	75,417	1845	93,501
1828	26,092	1837	72,034	1846	129,851
1829	31,198	1838	33,222	1847	258,270
1830	56,907	1839	62,207	1848	248,089

See the "Revenue Tables," 1820-33, p. 472, and the Eighth Report of the Emigration Commissioners, p. 40.

It will perhaps surprise some persons resident in this part of the kingdom to hear, that of the occupiers of land in Westmoreland and North Wales, more than one half employ no labourers at all; carrying on the business of cultivation entirely with their own hands or those of their children. How many of these are proprietors of the soil they cultivate I have no means of knowing. I am told this is the case with a large proportion of them, but I have not been able to meet with any authentic statement showing what this proportion is. Even those who are enumerated as "labourers" in Westmoreland and the other yeomanry counties are probably not in the same social position, generally speaking, as the labourers of the south-east. They are without doubt the sons of yeomen, too numerous to find employment on their father's land, and glad therefore to hire themselves out for a time to the neighbouring occupiers. If not actual capitalists, they expect to become capitalists on the death of their fathers or other relations, and this expectation imparts to them a character of respectability, and acts as a restraint on the commission of crime.

Every one must see the importance of making a distinction between these two classes of our agricultural population; and it will be found, I hope, when the comparison is made between the relative amount of crime in each county, keeping this distinction in view, as well as the distinction between the agricultural and manufacturing population, that many of the difficulties and perplexities which have hitherto embarrassed the subject disappear, and a rational explanation is afforded of some part of the extraordinary variation in the proportion of crime in different districts. I have divided the counties of England and Wales into five classes:—the first class containing those counties where the average number of labourers to each occupier of land amounts to two or less,—the second class where each occupier employs between two and three labourers,—the third class where each occupier employs from three to five labourers,—the fourth class where each occupier employs from five to seven labourers,—and the fifth class where each occupier employs more than seven labourers on an average. These numbers are taken from the Population Returns of 1831; I have employed these rather than the Returns for 1841, as in-door labourers in husbandry are confounded in the latter with domestic servants. Distributing the counties in this order, I then proceed to estimate the prevalence of crime in each by comparing the average number of commitments in five years with the amount of the population. It will be seen that in every case the number of commitments rises regularly and progressively with the size of the farms. I speak at present of the agricultural counties, which I have placed in a separate column. In the first class the number of commitments in each 100,000 of population amounts to 37, in the second class to 104, in the third class to 117, in the fourth class to 142, in the fifth class to 184.

There is surely nothing extraordinary or paradoxical in this result. On the contrary it appears to me just what might have been anticipated. That the possession of property, whether to a large or small amount, restrains a man from breaking the laws of his country, is a fact which must be familiar to every one's observation. A very small proportion, certainly, of those unfortunate persons who stand at the

bar of our Criminal Courts have anything to lose. It may serve further to illustrate this subject if I refer to the condition of the people in other countries, where the soil is chiefly divided among a multitude of little proprietors—Switzerland for instance.

"Whoever," says M. de Sismondi, "wishes to judge of the happiness of a community of peasant proprietors must study Switzerland. There he will see how a very dense population may be maintained in great comfort, cultivating the soil with their own hands. He will learn how independence of character results from independence of circumstances. Whether he traverses the smiling Emmethal, or the remote valleys of the canton of Berne, he will see with admiration, not unmixed with emotion, the houses even of the poorest peasants; so roomy, so well closed against the weather, so well built, so ornamented with carvings. Within he will find everything beautifully clean, furniture nicely kept, chests of drawers filled with linen, a large dairy well aired, and exquisitely neat. Under the same roof he will find ample provision of corn, of salted meat, of cheese, and of fuel. In the stables he will see the finest cattle of Europe, and the most carefully tended. The garden is planted with flowers. Both sexes are warmly and neatly clad. All exhibit in their countenances that impress of vigour and health, that beauty of features which becomes the distinguishing character of a race who from one generation to another have been exempted from the debasing influence of vice and misery. Let other countries boast of their wealth; Switzerland may well be proud of its peasantry*."

It appears that England was once inhabited by a race of peasant proprietors like those now seen in Switzerland. Of this fact we have evidence of various kinds; in the language of contemporary writers, and the language of ancient statutes. There is a remarkable passage in a work of Sir John Fortescue, "De Laudibus Legum Angliæ," in which he contrasts the condition of the French and English peasantry. "The French," says he, "wear no woollen cloth except it be very coarse; the women go barefoot, saving on holydays. Neither men nor women eat any flesh, but only lard of bacon, with a small quantity whereof they fatten their pottage and broths. As for roasted or sodden meat of flesh they taste none, except it be of the inwards sometimes and heads of beasts that be killed for gentlemen and merchants. Whereas the English," he continues, "are rich, having abundance of gold and silver, and other things necessary for the maintenance of man's life. They drink no water, except it be so that some for devotion and upon a zeal of penance do abstain from other drink; they eat plentifully of all kinds of flesh and fish. They wear fine woollen cloth in all their apparel; they have also abundants of bed-coverings in their houses, and of all other woollen stuff. They have great store of all hustlements and implements of household. They are plentifully furnished with all implements of husbandry, and all other things that are requisite to the accomplishment of a quiet and wealthy life according to their estates and degrees."

Such is the description given of the manner of life of the English

* Etudes sur l'Economie Politique, vol. i., pp. 171.

peasantry in the reign of Henry VI. It is so much at variance with common apprehension that it may be satisfactory to adduce other evidence, confirmatory of Sir John Fortescue's statement. Such evidence we have abundantly in the "Statute Book." We there find a series of Acts, extending from the reign of Edward III. to that of Henry VII., for regulating the wages of labour, and limiting the expenses of the labourer in dress and other particulars. These Acts are not, like the Acts relating to the poor in more recent times, intended to remedy the evils of poverty, but to restrain the excess of luxury. And when we examine their provisions in detail we find that they indicate a state of things just such as Sir John Fortescue has described. It would also appear that the common or day labourers (though we must not understand the above description as applying to them) were better paid than in our times. On comparing the prices of unskilled labour in those statutes with the prices of corn and other commodities consumed by the labourer, we find his condition much better than at the present day. Instead of entering into the detail of this calculation, however, it may be sufficient to state the result in the words of Mr. Hallam.

"There is one very unpleasing remark which every one who attends to the subject of prices will be induced to make, that the labouring classes, especially those engaged in agriculture, were better provided with the means of subsistence in the reign of Edward III. or of Henry VI. than they are at present. In the fourteenth century, Sir John Cullum observes, a harvest man had fourpence a-day, which enabled him in a week to buy a sack of wheat; but to buy a sack of wheat a man must now work ten or twelve days. So under Henry VI. if meat was at a farthing and half the pound, which I suppose was about the truth, a labourer earning threepence per day or eighteen-pence in the week, could buy a bushel of wheat at six shillings the quarter, and 24lbs. of meat for his family. After every allowance I should find it difficult to resist the conclusion, that however the labourer has derived benefit from the cheapness of manufactured commodities, and from many inventions of common utility, he is much inferior in ability to support a family to his ancestors three or four centuries ago*."

It would seem that this happy state of things was a consequence of the conversion of the tenants in villainage into copyholders. Of the origin and causes of that change I have never been able to find any distinct account. It is by no means easy to understand the motives which induced the feudal lords to surrender so large a portion of power, and, it would seem, of income too, as is implied in the emancipation of their serfs. But that such a change actually took place is well known. It is thus described by Blackstone. "The good nature and benevolence of many lords of manors having, time out of mind, permitted their villains and their children to enjoy their possessions without interruption in a regular course of descent, the common law, of which custom is the life, now gave them a title to prescribe against their lords, and on performance of the same services to hold their lands in spite of any determination of the lord's will.

* State of Europe during the Middle Ages, vol. iii., pp. 453—455.

For though in general they are still said to hold their estates at the will of the lord, yet it is such a will as is agreeable to the custom of the manor, which customs are preserved and evidenced by the rolls of the several Courts Baron in which they are entered or kept on foot by the constant immemorial usage of the several manors in which the lands lie*."

Mr. Macaulay tells us that in the time of our Kings of the House of Stuart, "The yeomanry or petty proprietors who cultivated their own fields, and enjoyed a modest competence, without affecting to have scutcheons and crests, or aspiring to sit on the bench of justice, then formed a much more important part of the nation than at present. If we may trust the best statistical writers of that age, not less than 160,000 proprietors, who with their families must have made up more than a seventh of the whole population, derived their subsistence from little freehold estates†. It was computed that the number of persons who occupied their own land was greater than the number of those who farmed the land of others‡."

To the passage I have quoted, describing the happy condition of the peasant proprietors of Switzerland, might be added others of the same character relating to the same class of persons in Norway, in parts of Germany, in Belgium, and other districts of the continent of Europe. But fearing to occupy too much of your time, I must content myself with referring to Mr. John Mill's lately published "Principles of Political Economy," to the works of Mr. Laing, of Mr. Alison, and M. de Sismondi, in all of which there are to be found much interesting information on this matter. I will add, however, one fact which I have gained from the Reports of the Registrar-General, respecting the people of Norway, a fact which I have not seen noticed by any writer. It is this, that the proportion both of deaths and of marriages to the population appears to be less than in any other part of Europe as to which we have information; a circumstance the more remarkable considering the harsh climate and sterile soil of that far north and mountainous country. Comparing the population of Norway with the average deaths of the preceding five years, it appears that the rate of mortality is only 1 in 51, whereas the Registrar-General tells us in the same report the rate of mortality in England is 1 in 45, in France 1 in 42, in Prussia 1 in 38, in Austria 1 in 33, in Russia 1 in 28. As the small proportion of deaths marks the superior comfort and morality of the Norwegian population, the small proportion of marriages proves their superior prudence, or what Malthus called moral restraint. That gentleman, in his "Essay on the Principle of Population," mentions that the proportion of yearly marriages to the population in Norway was, at the time he wrote, which was nearly half a century ago, as 1 to 130, which, he adds, is a smaller proportion of marriages than appears in the registers of any other country except Switzerland§. Now Switzerland and Norway are, beyond any other countries in Europe, remarkable as being the residence of peasant proprietors. And surely

* Commentaries, vol. ii., p. 95.
† Freehold and copyhold probably.
‡ History of England, vol. i., p. 335.
§ Principle of Population, vol. i., p. 307.

this is just such a result as might have been anticipated. For common experience shows us that the children of little capitalists and occupiers are more prudent and careful than the children of day labourers, who having no hopes of raising themselves above their actual condition, think very little of the future in this or any other of their undertakings.

I return now to the calculations I have made respecting the comparative prevalence of crime in the counties of England and Wales. Hitherto I have confined my observations to the Agricultural Counties, wishing to avoid that complexity which would arise in attempting to deal with three causes at once. I have endeavoured to shew that our agricultural population consists of two classes, remarkably distinguished from each other in their character and social position, the yeomen and the day labourers. The yeoman is a little capitalist, and is marked by those qualities which belong to the class of little capitalists. He is patient, industrious, frugal and intelligent, thoughtful of the future, and respectable in his general demeanour. I have shown that the number of commitments in every district rises rapidly and progressively with the size of the farms, as indicated by the number of labourers in husbandry, compared with the number of occupiers. Now in proceeding to consider the moral influence of manufacturing employments, it is absolutely needful, if we would arrive at any useful conclusions, to keep in mind the distinction between the two classes of agricultural population just adverted to. For in every county, even those most marked by the extension of manufactures, there is a considerable number of the people employed in husbandry, and on the character of this agricultural population depends very much the number of commitments in the county at large. In order therefore to estimate the influence of manufactures on the moral well-being of the people, we must compare the proportion of commitments in a manufacturing county with those in an agricultural county of the same class. This I have been careful to do. I have placed the Manufacturing Counties in a separate column by the side of the Agricultural Counties, distributing them in classes in the same manner, with reference to the proportion of labourers to occupiers. Taking the general results, I find the proportion of commitments rises with the size of the farms, as I had before observed in the Agricultural Counties. The number of commitments in each 100,000 of population is in the first class 131, in the second class 145, in the third class 186. There are no manufacturing counties in the two remaining classes. There are, however, still remaining four counties which I have not yet enumerated, as they are, properly speaking, neither manufacturing nor agricultural. These are the two mining counties, Cornwall and Durham, and the two metropolitan counties, Middlesex and Surrey. The mining counties occupy an intermediate place between the agricultural and manufacturing, the prevalence of crime being greater than in the former, less than in the latter. The county of Middlesex exhibits a higher amount of crime than any other.

In every class the prevalence of crime in the Manufacturing Counties is seen to be much higher than in the Agricultural Counties. But before we can rightly estimate the extent of the demoralizing

influence exercised by manufactures two corrections are needed. For one of these I am indebted to a suggestion of Mr. Neison. He observed that the Manufacturing Counties contain a larger proportion than the others of persons between fifteen and thirty years of age, at which time of life the disposition to crime is greatest, therefore a deduction must be made from the number which stands against the Manufacturing Counties in my table on this account. I have examined this question with my best attention, and find that the amount of this deduction, as between the yeomanry counties and Lancashire, is within a small fraction of ten per cent. The particulars I give in a table appended to this communication. The other correction is of an opposite character. As all the Manufacturing Counties contain a considerable agricultural population, I have assumed that the number of commitments taking place among this agricultural population is in the same proportion as the commitments in the purely Agricultural Counties of the same class. Deducting these, there remain the commitments due to the manufacturing population. After making these two corrections the numbers stand thus:

Commitments in 100,000 of Manufacturing Population in the counties of the First Class	179
Commitments in 100,000 of Agricultural Population	37
Difference in favour of the Agricultural Population	142
In the Second Class the Commitments among the Manufacturing Population	186
,, ,, among the Agricultural Population	104
Difference in favour of the Agricultural Population	82
In the Third Class the Commitments among the Manufacturing Population	253
,, ,, among the Agricultural Population	117
Difference in favour of the Agricultural Population	136

There are no Manufacturing Counties in the other two classes.

If we now confine our attention to the manufacturing population, and compare the ratio of commitments among that population in different districts, it will be found that in passing from class to class the tendency to crime progressively increases as it does in the Agricultural Counties. In the first class the commitments in each 100,000 of population are 179, in the second class 186, in the third class 253. This indeed might have been anticipated. For it is easy to conceive that many of the manufacturers of Lancashire, being the sons of yeomen in the neighbouring districts, possess a higher character of respectability than the sons of day labourers in Gloucestershire or Warwickshire.

The ratio which expresses the comparative tendency to crime between the agricultural and manufacturing population is as follows: In the first class the commitments are five times greater among the manufacturing than the agricultural population, in the second class nearly twice, in the third class more than twice as great. But in the large manufacturing towns a still higher amount of crime appears to prevail than in the manufacturing population of the counties at large. Thus I find the number of commitments in Liverpool on an average

of the five years 1839-1843, to be equal to 238, or after applying the correction suggested by Mr. Neison, 214 in 100,000. Of the number of commitments in Manchester I have not been able to find any regular series of returns, but I find such a return for the single year 1841, which gives 411, or adopting Mr. Neison's correction, 370 in each 100,000. This is the highest amount of crime that I have met with in any district, being ten times that which prevails in the yeomanry counties.

After the preceding calculations were completed, it occurred to me that it might be useful to compare my results with those obtained by Mr. Fletcher. If they should be found to agree, it would afford a satisfactory evidence of the justness of my conclusions; the more so as being drawn by different hands, relating to a different period of time, and computed by a different method. It was, of course, needful to arrange Mr. Fletcher's numbers in the same order as my own, in order to bring the two into comparison. On the other hand, if the results should be found to differ from those obtained by me, it would suggest matter for further consideration. It will be seen, however, from the following statement, that Mr. Fletcher's numbers and mine tend precisely to the same results. In every case the increased size of farms, measured by the proportion of agricultural labourers to the occupiers of land, is accompanied by a marked increase of crime, and in each case the prevalence of crime in the Manufacturing Counties greatly exceeds that in the Agricultural Counties of the same class.

Agricultural Counties.		Manufacturing Counties.	
Proportion of Agricultural Labourers to Occupiers of Land.	Commitments per cent. more or less than the Average of England and Wales.	Proportion of Agricultural Labourers to Occupiers of Land.	Commitments per cent. more or less than the Average of England and Wales.
Less than 2	− 57·2	Less than 2	− 20·2
From 2 to 3	− 24·7	From 2 to 3	+ 16·3
From 3 to 4	− 5·9	From 3 to 4	+ 20·7
From 4 to 6	− 1·5	From 4 to 5	+ 46·4
From 6 to 7	+ 5·3	None above 5	
Above 7	+ 17·1		

Hitherto I have spoken chiefly of the influence of different occupations on the *moral* well-being of the population. I now purpose to make a few observations on the subject of their *physical* well-being. These are indeed so closely connected that it might be inferred, without much danger of mistake, that where we find most vice, there is also most misery. But it may be right to test this conclusion by an examination of the rate of mortality in different districts; the rate of mortality measuring the amount of comfort enjoyed by the people, as the proportion of commitments measures their moral condition. I am not able to present so full and complete a statement under this head as I hoped and wished. I intended to compare the rates of mortality in each county of England and Wales, but I have deferred to undertake this calculation, hoping to find it ready to my hands in the Reports of the Registrar-General. In the Eighth Annual Report

there are some calculations of this sort relative to twenty-one counties, but, unfortunately, none of these are either yeomanry counties or Manufacturing Counties. In the Ninth Report I promised myself to find a continuation of these calculations, but in that hope I have been disappointed. We have, however, a few scattered facts which, as far as they go, show that the rate of mortality in the manufacturing districts indicates a degree of misery, no less remarkable than the amount of crime indicated by the number of commitments. In the Fifth Report the Registrar-General has given a comparative statement of the rate of mortality in the extra-metropolitan part of Surrey, in the Metropolis, and in Liverpool. He finds the average duration of life in Surrey to be 45 years, in the Metropolis 37 years, in Liverpool 26 years*. It appears that the rate of mortality in Glasgow is even higher than in Liverpool. Mr. Alison, in his evidence before the Lords' Committee on Commercial Distress, lately stated that the ratio of deaths to population in 1847 was as 1 to 18·2†. Comparing this with the particulars recorded of the state of Glasgow in past years, in his "Essay on Population," it appears that the rate of mortality has doubled since 1822; and this is not matter of surprise when we read his description of the condition of the people, both as deduced from his own personal observation and that of other competent observers. "Glasgow exhibits," says Dr. Cowan, "a frightful state of mortality, unequalled perhaps in any city of Britain." "The wynds in Glasgow," says Mr. Symonds, the Government Commissioner for examining into the condition of the handloom weavers, "comprise a fluctuating population of from 15,000 to 30,000 persons. This quarter consists of a labyrinth of lanes, out of which numberless entrances lead into small square courts, each with a dunghill reeking in the centre. Revolting as was the outward appearance of these places I was little prepared for the filth and destitution within. In some of these lodging-houses, visited at night, we found a whole lair of human beings littered along the floor, sometimes 15 to 20, some clothed and some naked, men, women and children huddled promiscuously together * * * * A very extensive inspection of the lowest districts of other places, both here and on the Continent, never presented anything one-half so bad, either in intensity of pestilence, physical and moral, or in extent proportioned to the population‡."

To these particulars Mr. Alison adds: "In no city of the empire has the progress of vice been so rapid, or the demoralization of the labouring classes been so extensive, as in Glasgow. In 1808 five criminals took their trial at the Spring Assizes; in spring, 1828, 115 were indicted, of whom no less than 75 received sentence of transportation. The great majority of these unhappy persons had received

* Preface, p. 26.

† It may be proper to observe that the rate of mortality in Glasgow here quoted from Mr. Alison, is not computed on strictly correct principles. It is found by simply dividing the population by the annual deaths. But in order to determine the rate of mortality correctly it is needful to compute the expectation of life from the numbers living at every age, compared with the numbers dying at every age. The true mortality of Glasgow is certainly higher than stated by Mr. Alison, because the method employed by him always gives too low a figure when applied to an increasing population.

‡ Vol. ii., p. 89.

a good education, and this remarkable increase of crime took place at a time when the diffusion of instruction was more general than at any former period. Serious crime in Lanarkshire is now* advancing at the rate of 52 per cent. every three years; in other words it doubles in about $5\frac{1}{2}$ years, while population doubles in about 30 years; so that crime is increasing *six times* as fast as the numbers of the people." In another place he says that "at Glasgow nearly 30,000 persons are every Saturday night in a state of brutal intoxication, and every twelfth house is devoted to the sale of spirits." It may be added, that perhaps no one has so good opportunities for ascertaining the true condition of the people of Glasgow as Mr. Alison, he being Sheriff of the County of Lanark.

And yet Glasgow has perhaps made greater advance in wealth and manufacturing prosperity than any town in Europe. Since the beginning of the present century, the Custom-House duties have increased from 3,000*l.* to 650,000*l.*, and the harbour dues from 3,300*l.* to 59,000*l.*

On the other hand we are told by Mr. Neison, in his valuable "Contributions to Vital Statistics," that the expectation of life among labourers in the rural districts exceeds the expectation of the rural districts generally, throughout the whole term of life. At 20 years of age the expectation of life of a labourer in a rural district is 48 years nearly, that of the inhabitants of the rural district generally is between 45 and 46 years. The occupation of a husbandry labourer appears, therefore, to be more healthful than that of any other class of persons, while in the manufacturing and commercial districts the case is exactly the reverse; the rate of mortality among the labourers is very much higher than among other classes dwelling in the same locality.

In conclusion I would ask, may not the facts which are here presented contribute to throw light on the causes of that painful and alarming feature in our social position—the rapid increase of crime? If it is true that the amount of crime in some districts is four or five times greater than in others differently circumstanced as to the employments and social position of the people, and if the population of these crime-producing districts is constantly and rapidly increasing, while in the other districts, more favourably circumstanced, population is nearly stationary—is not the increase of crime in great measure explained? It appears from the last census that during the ten years from 1831 to 1841 the proportion of our agricultural population to the whole population of the kingdom decreased from 28 to 22 per cent., while the proportion of the commercial population increased from 42 to 46 per cent. It also appears that the number of occupiers of land decreased about 18 per cent. in that period, no doubt by the consolidation of small farms into larger ones; and accordingly when we compare the number of labourers with the number of occupiers, the proportion of labourers appears greater than formerly in most of the counties. Now if it is true that the prevalence of crime increases with the size of the farms, here is another evident cause of the progress of demoralization.

* Written in 1840. Alison on Population, vol. ii., p. 97.

It may be said that the consolidation of farms, as well as the rapid growth of our manufacturing population, indicates a better economy of labour than heretofore; that a larger quantity of food and other commodities is now brought to market than formerly with the same number of hands employed, and that this economy of labour is a national good by lessening the cost of production. I have no wish to dispute the force of this reasoning. Let the economy of labour be valued at what it is worth, but let us not omit to inquire, at the same time, whether other and higher considerations are not involved in the question. If it should be found that the change in question is always accompanied by an increase of crime, a doubt may perhaps arise whether the economical gain compensates the moral loss.

Prevalence of Crime in each County of England and Wales compared with the Occupations and Social Condition of the People.

First Class.—Two Labourers or less to each Occupier.

	Occupiers of Land.	Agricultural Labourers.	Proportion.	Average of Commitments, 1829–33.	Population, 1831.	Commitments in 100,000.
Agricultural Counties.						
Westmoreland	3,120	3,474	1·1	20	55,041	36
Merioneth	2,358	2,601	1·1	8	35,315	23
Brecon	2,405	2,822	1·1	23	47,763	48
Cardigan	3,933	4,753	1·2	10	64,780	15
Carmarthen	5,809	6,940	1·2	38	100,740	37
Carnarvon	3,743	4,360	1·2	22	66,448	33
Radnor	1,943	2,451	1·3	13	24,651	53
Anglesea	2,751	3,870	1·4	13	48,325	27
Cumberland	6,456	9,010	1·4	71	169,681	42
Montgomery	3,548	5,747	1·6	34	66,482	51
Denbigh	3,888	6,465	1·6	36	83,629	43
Pembroke	3,706	6,075	1·6	26	81,425	32
			Total	314	844,280	....
					Average	37
Mining Counties.						
Cornwall	8,221	16,243	2·0	167	300,938	55
Durham	3,773	7,556	2·0	143	253,910	56
Manufacturing Counties.						
Lancashire	16,372	20,949	1·3	2,307	1,336,854	172
Glamorgan	3,754	5,192	1·4	87	126,612	69
Derby	7,577	10,593	1·4	193	237,170	81
York	32,601	53,059	1·6	1,363	1,371,359	100
Monmouth	2,791	4,845	1·7	115	98,130	117
Chester	8,433	15,094	1·8	550	334,391	165
			Total	4,615	3,504,516	....
					Average	131

Prevalence of Crime in each County of England and Wales compared with the Occupations and Social Condition of the People.—Continued.

Second Class.—Between Two and Three Labourers to each Occupier.

	Occupiers of Land.	Agricultural Labourers.	Proportion.	Average of Commitments, 1829–33.	Population, 1831.	Commitments in 100,000.
Agricultural Counties.						
Rutland	853	1,910	2·2	14	19,385	72
Flint	1,856	4,192	2·2	26	60,012	43
Lincoln	13,105	32,167	2·4	318	317,465	100
Northumberland	3,644	10,441	2·8	96	222,912	43
Devon	12,684	35,311	2·8	442	494,478	90
Somerset	9,763	28,107	2·8	645	404,200	160
Hereford	4,184	12,213	2·9	153	111,211	138
Shropshire	5,971	17,296	2·9	232	222,938	104
			Total	1,926	1,852,601	....
					Average	104
Manufacturing Counties.						
Stafford	7,430	16,812	2·2	654	410,512	160
Leicester	4,801	10,542	2·2	228	197,003	115
Nottingham	5,057	11,799	2·3	326	225,327	145
			Total	1,208	832,842	....
					Average	145

Third Class.—Between Three and Five Labourers to each Occupier.

Agricultural Counties.						
Cambridge	3,687	15,698	4·3	176	143,955	122
Northampton	4,132	17,775	4·3	175	179,366	98
Dorset	3,210	14,056	4·4	164	159,252	103
Norfolk	7,947	37,446	4·7	517	390,054	132
Huntingdon	1,254	5,967	4·8	50	53,192	94
			Total	1,082	925,819	....
					Average	117
Manufacturing Counties.						
Worcester	3,896	14,590	3·7	308	211,365	146
Gloucester	5,521	20,927	3·8	751	387,019	194
Warwick	3,980	15,644	3·9	687	336,610	204
			Total	1,746	934,994	....
					Average	186

Prevalence of Crime in each County of England and Wales compared with the Occupations and Social Condition of the People.—Continued.

Fourth Class.—Between Five and Seven Labourers to each Occupier.

Agricultural Counties.	Occupiers of Land.	Agricultural Labourers.	Proportion.	Average of Commitments, 1829-33.	Population, 1831.	Commitments in 100,000.
Wilts	4,626	24,708	5·3	396	240,156	165
Kent	6,513	36,113	5·5	681	479,155	142
Suffolk	5,647	33,040	5·8	400	296,317	135
Sussex	4,490	26,125	6·0	346	272,340	127
Hampshire	4,008	24,675	6·1	467	314,280	149
Oxford	2,512	15,998	6·4	212	152,156	140
Buckingham	2,605	16,743	6·4	205	146,529	140
Bedford	1,804	11,588	6·4	116	95,483	122
Berkshire	2,169	14,802	6·8	215	145,389	148
			Total	3,038	2,141,805	....
					Average	142

Fifth Class.—Seven or more Labourers to each Occupier.

Agricultural Counties.						
Essex	5,449	38,234	7·0	591	317,507	186
Hertford	1,917	14,700	7·6	260	143,341	181
			Total	851	460,848	....
					Average	184
Metropolitan Counties.						
Surrey	2,600	16,761	6·4	790	486,334	162
Middlesex	1,540	11,376	7·4	3,580	1,358,330	263

To find the correction to be made in the Amount of Crime in the Manufacturing Counties on account of the Ages of the Population.

Number of Males at every Age in the Yeomanry Counties. From the Census of 1841.

Counties.	Under 15.	15 to 20.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 to 60.	Above 60.
Westmoreland.	10,219	3,023	2,526	1,972	3,268	2,619	1,972	2,475
Cumberland ..	32,256	8,846	7,792	6,256	10,195	8,112	5,948	6,510
Merioneth	7,027	1,817	1,611	1,515	2,342	1,697	1,436	1,817
Brecon	9,604	2,844	2,775	2,362	3,722	2,572	1,897	2,247
Cardigan	12,811	3,333	2,639	2,212	3,589	2,762	2,200	2,636
Carmarthen ..	20,524	5,196	4,009	3,411	5,859	4,215	3,274	4,078
Carnarvon	14,931	3,939	3,497	3,135	4,880	3,474	2,646	2,937
Radnor	4,731	1,305	1,217	914	1,359	1,188	937	1,153
Anglesea	9,586	2,366	1,902	1,605	2,613	2,275	1,781	2,164
Montgomery ..	12,932	3,547	2,850	2,359	3,948	3,089	2,579	2,941
Denbigh	16,535	4,691	3,842	3,166	5,307	4,119	3,131	3,581
Pembroke	16,175	4,067	3,160	2,592	4,485	3,615	2,649	3,374
	167,331	44,974	37,820	31,499	51,567	39,737	30,450	35,913

To find the correction to be made to the Amount of Crime in the Manufacturing Counties on account of the Ages of the Population.—Continued.

Number of Females at every Age in the Yeomanry Counties.

Counties.	Under 15.	15 to 20.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 to 60.	Above 60.
Westmoreland.	10,296	2,749	2,428	2,097	3,262	2,570	2,018	2,687
Cumberland ..	31,696	9,342	8,912	7,107	11,052	8,696	6,582	8,136
Merioneth	6,798	1,818	1,724	1,524	2,319	1,876	1,615	2,365
Brecon	9,664	2,788	2,671	2,202	3,267	2,405	1,897	2,596
Cardigan	12,623	3,697	3,358	2,858	4,370	3,308	2,828	3,500
Carmarthen ..	20,016	5,766	5,023	4,073	6,562	4,877	3,814	5,512
Carnarvon	14,775	4,129	3,805	3,143	4,988	3,908	2,973	3,729
Radnor	4,712	1,314	1,102	854	1,323	1,090	910	1,211
Anglesea	9,153	2,585	2,324	1,948	3,039	2,543	2,128	2,791
Montgomery ..	12,973	3,554	2,921	2,388	3,910	3,102	2,614	3,455
Denbigh	15,901	4,561	3,942	3,202	5,168	5,116	3,216	4,310
Pembroke	16,403	4,910	4,667	3,599	5,596	4,469	3,374	4,751
	165,010	47,213	42,877	34,995	54,856	42,960	33,969	45,043

The Number at every Age to each Thousand of Population will be as follows:—

Males.....	183	49	41	34	56	43	33	39
Females.....	181	51	47	38	62	47	37	50

Number of Males and Females at every Age in Lancashire.

Males	303,779	85,122	81,057	69,472	113,866	75,441	44,921	39,419
Females.....	304,112	89,897	93,520	75,845	117,577	77,117	48,360	45,201

The Number at every Age to each Thousand of Population will be as follows:—

Males.....	182	53	48	42	68	45	26	23
Females.....	182	54	56	45	70	46	29	27

Number of Commitments at every Age in Lancashire.

Males.....	208	759	861	589	652	280	91	42
Females.....	48	185	235	154	183	83	48	15

Total.—Males 3,482; Females 941. Grand Total.—4,423.

Number of Commitments that would take place in Lancashire, supposing the Ages of the Population the same as in the Yeomanry Counties; the tendency to crime at every age being the same as at present.

Males.....	209	702	735	476	537	267	115	71
Females.....	48	174	197	121	162	85	61	27

Total.—Males 3,112; Females 875. Grand Total—3,987.

As 4,423 : 3,987 :: 100 : 90·1,

therefore the deduction to be made from the amount of crime in Lancashire, on account of the difference in the ages of the population, when compared with the Yeomanry Counties, amounts to 10 per cent. nearly.

To find the correction to be made to the Amount of Crime in the Manufacturing Counties on account of the Agricultural Population contained in those Counties.

In the purely Agricultural Counties the population is equal to eight times the sum of the occupiers of land and labourers in husbandry, very nearly. I assume that the same proportion holds good in the Manufacturing Counties. I also assume that the Number of Commitments is in the same proportion among the Agricultural Population of the Manufacturing Counties as in the Agricultural Counties of the same class.

MANUFACTURING COUNTIES IN CLASS I.

Total Population	3,504,516	Total Commitments	4,615
Agricultural Population	1,450,080	Due to Agricultural Population	522
Manufacturing Population	2,054,436	Due to Manufacturing Population	4,093

Hence the Number of Commitments in 100,000 of Manufacturing Population $= \frac{4093}{2,054,436} = 199$

Deduct 10 per cent. 20

Corrected Result 179

MANUFACTURING COUNTIES IN CLASS II.

Total Population	832,842	Total Commitments	1,208
Agricultural Population	451,528	Due to Agricultural Population	421
Manufacturing Population	381,314	Due to Manufacturing Population	787

Hence the Number of Commitments in 100,000 of Manufacturing Population $= \frac{787}{381,314} = 206$

Deduct 10 per cent. 20

Corrected Result 186

MANUFACTURING COUNTIES IN CLASS III.

Total Population	934,994	Total Commitments	1,746
Agricultural Population	516,464	Due to Agricultural Population	568
Manufacturing Population	418,530	Due to Manufacturing Population	1,178

Hence the Number of Commitments in 100,000 of Manufacturing Population $= \frac{1178}{418,530} = 281$

Deduct 10 per cent. 28

Corrected Result 253

Railways in Prussia and other Continental States, at the close of the Year 1848. Contributed by BERNARD HEBELER, Esq., *Consul-General for Prussia.*

LENGTH of railways in Prussia opened for traffic, and in course of construction, undertaken by Government and by private companies, 482 German miles; capital invested, and further required for their completion, 187,703,621 Rthlr., averaging 389,400 Rthlr. per German mile. One German mile is equal to about five English, and 7 Rthlr. make 1*l.* sterling.

Neighbouring states participate in these railways for a length of $42\frac{3}{4}$ German miles in actual operation, involving, according to the

above given proportion, a capital of 16,600,000 Rthlr.; for although these are owned in Prussia, they extend over neighbouring states of the German confederation, viz.:—

Of the Magdeburg-Leipsic Railway	4½	German miles.
,, Berlin-Anhalt Railway	8	,,
,, Berlin-Hamburg Railway	17¼	,,
,, Thuringia Railway	13	,,

Besides 3½ German miles of the Aix-la-Chapelle and Mastricht line, still in course of construction, engaging a capital of 1,400,000 Rthlr., extend in the kingdom of the Netherlands, so that, including 4½ German miles belonging to foreign railway companies and constructed upon Prussian soil, the exact total railway extent upon the Prussian territories comprises 440¼ German miles, on which a capital of 169,700,000 Rthlr. is invested.

We do not allude here to the railway from Kottbus to Schiclochsee, length 4¼ German miles, cost 273,000 Rthlr., as it is worked by horses.

Of the above-stated total length of railways in Prussia, there were,

At the close of 1848,	322¼	miles in active operation.
,,	118	,, in construction.

For the construction of these railways, extending over 482 miles, the sum of 143,005,047 Rthlr. had actually been disbursed until the end of 1848, viz., 126½ millions on the Prussian territory. There is, therefore, still to be provided for a capital of 44,698,574 Rthlr., or on Prussian account 43,300,000 Rthlr.

To the total capital of investment, private companies have contributed 139,785,500 Rthlr., of which 129,540,050 Rthlr. have been paid up and disbursed, leaving a balance of 10,245,050 Rthlr. to be provided for. On the other hand, the Prussian Government is interested in the above total amount for 43,478,121 Rthlr., of which 9,024,597 Rthlr. were disbursed up to ult. 1848, and 34,453,524 Rthlr. remain for investment for the railways constructed by the State. Besides, the Governments of Weimar and Gotha are interested in the Thüringian Railways for a sum of 1,440,000 Rthlr., and the Governments of Mecklenburg and Hamburg jointly for 3,000,000 Rthlr. in the Berlin-Hamburg Railway.

Moreover, the Prussian Government has guaranteed the interest, at the rate of 3½ per cent. for 31,650,000 Rthlr., of the total capital of investment, and admitted a priority of interest over a capital of 11,179,700 Rthlr.

The lines undertaken at the direct cost of the State, and already begun, are—

a. The Saarbruck line, intended to connect the Ludwigs line, in the Palatinate, with the line from Paris to Metz.

b. The Westphalian line (Haneda-Lippstadt-Hamm).

c. The East line, beginning at the crossing of the Stargart-Posen line, near Driesen, to Konigsberg, with a branch line from Dieschau to Danzig.

Some other projected lines are reserved for the future; the preliminary labours for the same are, nevertheless, already begun at the expense of the State. Their length and estimated cost are not comprised in the above-stated figures.

On comparing the state of railway building in Prussia with that existing in other countries, it becomes evident that Prussia has not remained behind. Of all the States on the European continent she possesses the greatest number. Austria, (excluding Hungary, Gallizia, and Italy,) had, at the close of last year, about 148 miles of railways worked by locomotive engines in active operation; about 52 miles were in course of construction. The capital intended for the formation of these 200 miles was 84,000,000 Rthlr., viz., 29,000,000 Rthlr. from private companies, and 55,000,000 Rthlr. from the State. There are, besides, in the German-Austria states, 33 miles of railways worked by horses, (cost 2,327,000 Rthlr.) The remaining German railways have a total length of about 508 miles, including the distances under construction, and the foreign lines domiciliated in Prussia, as mentioned above, requiring a total expenditure of about 199,000,000 Rthlr., in which private companies participate for about 65,000,000 Rthlr.

Of these railways 336 miles were in active operation at the close of last year.

Accordingly all the German railways, for so far as they are undertaken, offer an extent of 1,148 German miles, requiring a total capital of 453,000,000 Rthlr., (viz., 235,000,000 Rthlr. from the Governments and 218,000,000 Rthlr. from private individuals).

Hence, at the close of 1848, 806 miles (excluding 38 miles for horse-traction,) were opened for traffic, and it is estimated that by that time Germany had invested at least 350,000,000 Rthlr. in railways.

This capital, &c., is to be divided as follows:—

	Cost.	Length.	Length in Operation.
Prussia .....with	37½ per cent.	38½ per cent.	40 per cent.
Austria ..... ,,	18½ ,,	17½ ,,	18¼ ,,
Other German States ,,	44 ,,	44 ,,	41¾ ,,

Belgium had, at the close of 1848, 106 miles of railway extent, involving an investment of 60,000,000 Rthlr. France contemplates the construction of 734 miles of railways, costing 547,600,000 Rthlr., (308,600,000 Rthlr. by the State, and 239,000,000 Rthlr. by private individuals,) of which, at the end of 1848, only 298 miles were opened to the public, having cost 325,000,000 Rthlr. It is further to be observed that British capitalists are considerably interested in French railways, whilst Germany is limited to her own resources exclusively, the German capitalists being, moreover, largely interested in railway undertakings abroad.

The length of finished and projected railways in Great Britain and Ireland shows a total of 2,567 miles at a cost of 2,338,500,000 Rthlr. Of these, 1,070 miles, costing 1,361,200,000 Rthlr., were opened for traffic at the close of 1848.

In general there were open for traffic in Germany, Belgium, France, and Great Britain, at the close of 1848, 2,280 miles of railway, at a cost of about 2,100 millions Rthlr. The aggregate length of railways in

these countries as projected, is 4,550 miles, requiring an investment of 3,400 millions Rthlr., of which, therefore, 1,300 millions Rthlr. are still to be provided for.

We conclude with the following statistical computation:—

Of the railways opened for traffic at the end of 1848 the proportion of one mile is,

In Prussia	15½	square miles, and	51,500 inhabitants.
Austria, exclusive of Hungary, &c.,	24¾	,,	82,000 ,,
Other German States	13	,,	50,000 ,,
Germany, on an average	16¼	,,	55,800 ,,
Belgium	5	,,	40,000 ,,
France	32½	,,	116,000 ,,
Great Britain	5½	,,	28,000 ,,

Proportion of one mile of railway *as projected:*—

In Prussia	11½	square miles, and	37,000 souls.
Austria	18¼	,,	60,000 ,,
Other German States	8¼	,,	33,500 ,,
Germany, on an average	11½	,,	40,000 ,,
Belgium	5	,,	40,000 ,,
France	13	,,	47,000 ,,
Great Britain	2¼	,,	11,600 ,,

In consequence of which each inhabitant has to contribute as follows:—

In Prussia	10⅓	Rthlr.	In Belgium 14 Rthlr.
Austria	7	,,	France 18 2/10 ,,
Other German States	11 8/10	,,	Great Britain 78 ,,
Germany, on an average	10	,,	

Lastly, a Prussian mile of railway costs,

In Prussia	389,400	Rthlr.	In Belgium 566,000 Rthlr.
Austria	420,000	,,	France 745,000 ,,
Rest of Germany	394,000	,,	Great Britain 911,000 ,,
All Germany	395,600	,,	

Statistics on the Manufacture of Plate Glass in Great Britain from 1760 *to* 1847, *with Remarks on Foreign Productions and the Export Trade.*

By Henry Howard, Esq., *Plaistow, Essex.*

Dates.	Prices at which Sold by the Trade Tariff.				
	In. In. 12 by 12.	In. In. 24 by 18.	In. In. 36 by 24.	In. In. 48 by 30.	In. In. 60 by 42.
1760 Vauxhall.	*s. d.* 5 2 per foot.	*s. d.* 6 2 per foot.	*s. d.* 12 8 per foot.	*s. d.* 40 9 per foot.	*s. d.* 81 0 per foot.
1819	13 1 ,,	15 10 ,,	16 5 ,,	about 24*s.* per ft.	about 28*s.* ,,
1827	6 8 ,,	9 9 ,,	10 9 ,,	13 2 ,,	18 10 ,,
1836	7 0 ,,	9 0 ,,	9 0 ,,	10 0 ,,	13 2 ,,
1845	7 0 ,,	9 0 ,,	9 0 ,,	10 0 ,,	13 2 ,,
1847 Duty Free.	3 4 ,,	5 1 ,,	6 10 ,,	8 4 ,,	11 10 ,,

[Dates.	Prices at which Sold by the Trade Tariff.				
	In. In. 60 by 48.	In. In. 96 by 60.	In. In. 120 by 72.	In. In. 144 by 75.	In. In. 144 by 76*.
1760 Vaux-hall	None made in England larger than 60 by 42; all above that size were imported from abroad.				
1819	about 30*s.* per ft.	about 60*s.* per ft.	about 160*s.* per ft.	No Price—none made so large.	..
	s. d.	*s. d.*	*s. d.*	*s. d.* 50 0	*s. d.*
1827	19 1	26 2	39 4	Very difficult to manufacture so large.	.. ..
1836	14 0	20 0	24 5	27 4 27 4	27 7
1845	14 0	20 0	24 5	and now made *much larger* with perfect facility.	27 7
1847 Duty Free.	12 10	19 5	24 5	27 7	35 6

Dates	Rate of Excise Duty.	Quality made.	Supply.	Average Selling Price per Foot.	Number of Feet Sold per Week. English.	Estimated Number of Hands Directly and Indirectly Employed.	Estimated Amount of Capital Employed.
1760 Vaux-hall.	..	Indifferent.	..	..	..	..	..
1819	Per cwt. 98*s.*	Indifferent.	No complaint on that head.	*s. s.* 20 to 25	about 3,000	..	..
1827	60	Considerably Improved.	Inadequate to Demand.	10 to 12	about 5,000	..	..
1836	60	Improved.	Inadequate.	8 to 9	about 7,000	about 2,500	about £250,000
1845	63	Still Improving.	Still Inadequate.	about 6*s.*	about 23,000	about 6,000	..
1847 Duty Free.	*Free.*	Better than ever.	More Inadequate than ever.	4 to 5	about 12,000	about 70,000	about £1,000,000

* Now made with facility 170 in. by 90 in. and upwards.

The largest plate ever *silvered* in Great Britain, or perhaps in the world, is at Mr. Donne's, Leadenhall Street, near Cornhill, Glass Dealer, the dimensions are from 160 to 170 in. high by 94 in. wide; the plates in the windows are 160 in. high by 72 in. wide each.

Notwithstanding the disturbed state of Europe, and consequent depression in trade, the sales by one leading Company in the first six months of this year *have exceeded those of any previous half-year.*

The excise duty on plate glass was, in direct charge, nearly 40 per cent. of the entire cost, whilst, indirectly, the restrictions inseparable from the excise laws increased the amount to considerably more.

The reduction to the public will be seen in the above scale, which exhibits a plate 144 in. by 76 in., *before the duty was remitted*, at 27*s.* 7*d.* per foot, a price that then yielded a very large profit, whereas, strange as it may appear, the same plate, *entirely free from duty*, was advanced to 35*s.* 6*d.* per foot, being an *increase* of 28 per cent.

In remitting the glass duties, it should be observed, that Sir Robert Peel very wisely removed also the duties on all the raw materials used in the manufacture thereof, thereby setting the trade perfectly free.

The importation of plate glass into France was, until 1847, *prohibited*. It is now admitted at an *ad valorem* duty, varying from 15 to 19 per cent. (See "Times," April 14th, 1847.) The British duty on the importation of foreign plate glass may be estimated at about *half that amount*, which sufficiently indicates the relative positions of the two countries. At this low rate of duty, and the liberal prices which have ruled on this side, the importations (almost exclusively from a French and a Belgian house) have been confined chiefly to plates of large dimensions, *which pay the highest rate of profit;* and the supply of these has not been to anything like the extent that was anticipated from the present tempting scale of prices; whilst in plates of smaller dimensions, it is admitted that the foreigner cannot afford to send them over at all at the English price.

The continental manufacture of this article is chiefly carried on in France, Belgium, Prussia, Russia, Bohemia, Bavaria, &c. Those of France and Belgium rank next the best English make, both in *colour* and *brilliancy*, but the productions of Prussia are much inferior in both these points, as is also the Russian, which is of a very dark colour, and of a more imperfect character generally than any of the others.

The Bohemian and Bavarian is chiefly *blown* glass, which, from the nature of the process it undergoes, cannot be rendered so perfect as that which is *cast*. It is also *limited in size and thin*, and is, therefore, unsuited to the general purposes for which plate glass is used in this country and elsewhere.

Notwithstanding this, however, large quantities are annually shipped from the vicinity of Bamberg and Nuremberg to the United States of America, where it finds a ready sale.

For some years the English plate glass has been considered the best manufacture of the kind in Europe, both in *colour* and *brilliancy*, and it can be rendered *much superior in finish* to any now made. Although the knowledge of this interesting branch of manufacture (to which the nobles of France were formerly educated without detracting from their nobility) was borrowed from that country some seventy or eighty years since, such is the manufacturing genius of Great Britain, as displayed in the great improvements effected in this country during the last twenty-five years—in machinery and otherwise—that the *largest* and *finest* plates are now produced in England with *greater facility*, and at *a less cost*, than in any other part of the world; and the entire remission of the excise duty, which is no longer permitted to fetter native industry with obstructive restrictions, will now enable the British manufacturer successfully to compete with the foreigner, in any market.

Nor is it unworthy of remark, as an authenticated fact, that whilst certain eminent foreigners have derived only 9 per cent. from this manufacture, English makers have realized 20 per cent., which, by judicious management, may be still further augmented.

No plate glass is made in all the continent of India and China, nor the West Indies; neither does any manufacture of the kind exist in all North and South America, Australia, Turkey, &c., &c., the whole of whose supplies are obtained from the manufacturing districts of Europe.

British skill having now raised this manufacture to such a point of excellence, there is no longer a doubt that British enterprize could and would ere this have commanded all these and many other markets, were it not that the unprecedentedly large demand for home consumption alone, the inadequate supply, and the consequent high prices, have all combined for a time to check the export trade to these important portions of the globe. And these causes alone have prevented that full development of Sir Robert Peel's measure, which was so truly pointed out in his speech in Parliament, on the 14th of February, 1845.

Much has been said, both in and out of Parliament, of the ruin which is to ensue to British interests from the remission of the glass duties. Now, how stand the facts? In 1845, when the excise duty was remitted, the English makers reduced the price of small plates (which foreigners could not afford to send here at all) to a *fair* and *equitable* scale, but the large plates (which, paradoxical as it may appear, *cost less per foot than the small ones*,) were kept up at the *unreasonable* rates quoted above.

Our neighbours the French and Belgians, attracted and encouraged by the simplicity which thus invited them here, under cover of our excessive prices, accordingly brought over and sold their larger fabrics at enormous profits, whilst our manufacturers, realising still greater advantages, and sustained by an immense demand, refused to modify this extraordinary tariff, although its manifest injustice to the public, and direct tendency to injure the very interest it was meant to promote, have been almost universally condemned as the climax of absurdity. But let us see what this competition has really amounted to, and how it has operated.

By the Official Return, No. 305, dated May 5, 1848, printed by order of the House of Commons, it appears that the total amount of plate glass entered for consumption in England was, in 1847, 99,841 feet, which is at the rate of 1,920 feet per week, the total English make being at the same time 70,000 feet per week, so that the proportion is $2\frac{3}{4}$ feet of foreign for every 100 feet English.

It has been alleged that this importation of foreign glass effects a displacement of British labour. Now in this case its operation has been just the reverse, for this wholesome competition, small though it be, has caused such a relaxation in price, that instead of confining this trade within the circumscribed limits of monopoly, it has had the effect of so vastly increasing the consumption as to afford employment to thousands of hands who, otherwise, might have remained in a state of inactivity, while one of the two agencies established here exclusively for the sale of foreign plate glass has been compelled to relinquish the sale, simply from inability to withstand British competition.

Now, how stand the exports? Comparing the Parliamentary Return already referred to with that numbered 361, dated 7th May, 1847, it will be found that our exports of 1847 exceeded those of 1846—

In Flint Glass by	20	per cent.
In Common Window Glass by	42	,,
In Bottles by	5	,,
In Looking Glasses by	49	,,
In Plate Glass by	110	,,

Looking at the unexampled commercial difficulties of 1847, this increase is almost incredible, yet such is the fact.

Again, in 1846 what was the quantity of plate glass exported to all the United States of America? *Not a single foot*,—whilst in 1847, when prices had been somewhat mitigated, the exports *to the United States alone* nearly equalled the total amount exported in 1846 *to all the world.*

MISCELLANEOUS.

Classification of Depositors in Savings' Banks.

Classification of 11,249 Accounts, remaining open in the Books of the Union Savings' Banks, Devonport, 20th November, 1847.

Number of Accounts.	Class.	Amount belonging to each Class.		
		£	s.	d.
478	Tradesmen and small Shopkeepers	23,739	10	6
122	Small Farmers	6,426	2	8
1,921	Journeymen Tradesmen, Mechanics, &c.	77,308	1	1
642	Agricultural Labourers	23,573	0	6
482	Labourers of other descriptions	19,970	15	4
186	Male Domestic Servants	8,485	2	2
1,894	Female ditto	47,588	3	5
1,008	Seafaring Persons, Royal Navy, Royal Marines, Soldiers, &c.	34,817	5	8
370	Teachers, Clerks, Shopmen, &c.	15,206	6	6
580	Females engaged in Trade	17,286	8	4
168	Apprentices	1,986	12	0
1,915	Children	33,215	1	2
338	Officers of the Royal Navy, and other Public Officers	18,058	5	4
942	Persons of small Income, unconnected with Business, Widows, &c.	47,102	3	8
11,046	Accounts of Individual Depositors, to whom belong the Sum of	374,762	18	4
94	Charitable Institutions	3,816	2	9
109	Friendly Societies	14,015	5	4
11,249	Total number of Accounts open, amounting to	392,594	6	5

Average Amount of Individual Depositors' Accounts, 33*l.* 8*s.* 6½*d.*

Coal Trade of Great Britain.

THERE are upwards of 3,000 coal mines in Great Britain, which employ nearly 250,000 men, women, and boys, under ground and above, termed hewers, putters, trappers, overlookers, bankmen, &c., &c. The capital invested in working-stock, tramways, staiths, and harbours, altogether exceeds 30,000,000*l.* in value! and the "get of coal," as it is technically termed, amounts to 34,000,000 tons annually; the estimated value of which, at the "Pit's Mouth," is 10,000,000*l.* Of this enormous quantity of coal, one-third is raised in the Northumberland and Durham Districts, from whence the chief exports of the kingdom are made by the Rivers Tyne, Wear, and Tees, both foreign and coastways. The chief points of home consumption are in the iron works of Staffordshire, South Wales, and the West of Scotland; which, together with the lesser works of North Wales, Shropshire, Yorkshire, and Derbyshire, consume nearly one-third of the whole. The residue is consumed in smaller manufactures generally, such as those of cotton and woollen, the salt works, &c., and by the populations of large towns for domestic purposes.—"Report on Coal Traffic," by Braithwaite Poole, Esq., F.S.S.

Nineteenth Meeting of the British Association for the Advancement of Science, held at Birmingham, September 12th-19th, 1849. Section F. Statistics.

President.—Lord Lyttleton.

Vice-Presidents.—Colonel Sykes, F.R.S.; G. R. Porter, Esq., F.R.S.; Davenport Hill, Esq.; James Heywood, Esq., M.P., F.R.S.

Secretaries.—Professor Hancock; Doctor Finch; F. G. P. Neison, Esq.

Committee.—The Earl of Harrowby; The Bishop of Manchester; The Chevalier Bunsen; M. Drouyn de l'huys, (Ambassadeur de France); M. T. C. Viennot, (Attaché à l'Ambassade de France); Professor Roscher; A. Petermann, Esq.; M. Cochelet, (Consul-General of France); William Spence, Esq., F.R.S.; J. Fletcher, Esq.; R. A. Slaney, Esq., M.P.; Rev. C. Cooke; Thomas Tooke, Esq., F.R.S.; Peter Dickson, Esq.; R. W. Rawson, Esq.; Professor W. P. Alison, M.D.; John Shuttleworth, Esq.; Henry Hutton, Esq., Q. C.; John Crawfurd, Esq.; William Hogan, Esq., M.R.I.A.; Mark Philips, Esq.; J. T. Danson, Esq.

The following Papers occupied the attention of the Section:—

On the Sanitary Condition of Darwen, in Lancashire. By J. Paton, Esq.

On the Agricultural Statistics of Ireland. By G. R. Porter, Esq., F.R.S.

On the Use of the Ordnance Survey to Statistics in the Registration of Judgments and Deeds in Ireland. By Professor Hancock.

On the Diseases and Causes of Disability which incapacitate the Native Soldier for Military Service in the Indian Army. By Dr. Cuthbert Finch.

Contributions to the Statistics of the Production of Sugar in the British Dominions in India. By Lieut.-Col. Sykes, F.R.S.

On the relative Amount and Extent of the Different Races in Germany, and especially in Prussia, with Statistics of its Railways, Education, &c.

On a Form of Table for Collecting Returns of Prices in Ireland. By Professor Hancock.

Statistics of Monts de Piété and Pawnbroking in Ireland. By Professor Hancock.

On the County of Warwick Asylum for Juvenile Offenders. By Charles Bracebridge, Esq.

On the Progress of Emigration from the United Kingdom during the last thirty years, relatively to the Growth of Population. By J. T. Danson, Esq.

On the Tenure of Land in the Island of Madeira. By the Very Reverend the Dean of Ely.

On the Application of Statistics to the Investigation of the Causes and Prevention of Cholera. By Professor W. P. Alison, M.D.

Statistics of the Metropolitan Buildings for the Labouring Classes. By Lieut.-Col. Sykes, F.R.S.

Statistics of the Prices of Labour and of Food, &c., in England and Wales. By G. R. Porter, Esq., F.R.S.

On the Prices of Grain in France from 1790 to the present time. By J. T. Danson, Esq.

The next Meeting of the Association will be held at Edinburgh.

PROCEEDINGS OF THE STATISTICAL SOCIETY OF LONDON.

First Ordinary Meeting, 1849-50. *Monday*, 19*th Nov.*, 1849.

Lieut.-Colonel W. H. Sykes, F.R.S., Vice-President, in the Chair.

The following Paper was read:—

A Proposal for Preserving and rendering more generally concentrated the Parish Registers of England and Wales. By the Rev. Edgell Wyatt-Edgell.

Second Ordinary Meeting, 1849-50. *Monday*, 15*th Dec.*, 1849.

Lieut.-Colonel W. H. Sykes, F.R.S., Vice-President, in the Chair.

The following Gentlemen were elected Fellows:—

The Right Rev. The Lord Bishop of Oxford.
His Excellency Chevalier Bunsen (Prussian Ambassador)
The Rev. Napleton Penoyre.
The Rev. H. Molesworth St. Aubyn.
The Rev. Charles Allen Elton.
Augustus S. Oliver Massey, Esq.
Alexander Maclaren, Esq.
J. B. Blackett, Esq.
John Presant, Esq.
James Bampton, Esq.
George Mc Culloch, Esq.
G. D. Dempsey, Esq.

The following Paper was read:—

Contributions to the Statistics of China. By Dr. Gutzlaff.

Third Ordinary Meeting, 1849-50. *Monday*, 21*st Jan.*, 1850.

Lieut.-Colonel W. H. Sykes, F.R.S., Vice-President, in the Chair.

The following Gentlemen were elected Fellows:—

The Right Hon. Earl Grey.
Frederick D. Goldsmid, Esq.
Henry Finden, Esq.

The following Paper was read:—

The Prevalence of Cholera in the Eighth District of the Union of Plympton St. Mary, Dorset. By Alexander Maclaren, Esq.

THE MARRIAGES, BIRTHS, AND DEATHS, REGISTERED IN THE DIVISIONS, COUNTIES, AND DISTRICTS OF ENGLAND,

AS PUBLISHED BY AUTHORITY OF THE REGISTRAR-GENERAL.

The following Return comprises the Births and Deaths which were registered in all the districts of England by 2,189 Registrars, in the summer quarter ending September 30th, 1849; and the Marriages in above 12,000 chapels and churches, 2,869 registered places of worship unconnected with the Established Church, and 623 Superintendent Registrars' Offices, in the quarter ending June 30th, 1849.

The Return of marriages is incomplete; but the numbers wanting are inconsiderable, and have been supplied from the previous years. Returns of the births and deaths have been received from every Registrar; and there is reason to believe, that under the calamity that has befallen the kingdom, no deaths have escaped registration, or been assigned by the medical attendants to any but what they considered the true causes. The return, unlike other returns in this and other countries, includes every parish and place, whether healthy or suffering from an

epidemic, and deaths from every cause; so that the tables and the Registrars' remarks exhibit the results of a rapid but general sanitary survey of the country.

The result summarily is, that the marriages are a little above the average, the births slightly below the average, the deaths in greater number than have ever before been registered. The deaths in the three months were 135,364, or 47,602 more than were registered in the summer quarter of 1848. They exceeded the births (135,200) by 164; and as the emigrants in the quarter from London, Liverpool, and Plymouth alone, amounted, according to the Emigration Commissioners, to 46,558*, the population of England has suffered, died, and decreased during the quarter to a degree of which there is no example in the present century.

Marriages.—The marriages (34,702) in the quarter ending June 30th, 1848, were fewer than the marriages in the corresponding quarters of 1845-7; in the June quarter of 1849 the numbers increased in London, Bedfordshire, Gloucestershire, Shropshire, Warwickshire, Nottinghamshire, Cheshire, Lancashire, and the West Riding of Yorkshire. In the other counties the aggregate returns differ little from those of 1848. The marriages were about 35,908 in the three months.

Births.—135,200 births were registered in the quarter ending September 30th, 1849; the births were 153,716 in the previous quarter, and 140,361 in the corresponding quarter of 1848. The rate of birth was higher than in the September quarter of 1847; and lower, with this exception, than in any September quarter since 1840. In London the births were 17,224, which is near the average number; in the other divisions the births were fewer than in the September quarter of 1848; when they were, however, considerably above the average.

Births and Deaths: Decrease of Population.—The deaths exceed the births registered by 164; but all the births are not registered, and a certain number of Scotch and Irish people enter England every quarter, so that were it not for emigration it is probable that notwithstanding the mortality, the population would have slightly increased. Emigration has, however, gone on rapidly, and England has now less inhabitants by several thousands than were within its shores at Midsummer.

Deaths in the Summer Quarters.

	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	Total.
In 117 Districts, comprising the chief towns	37317	39498	36058	39409	36953	38933	36139	51405	49479	43445	78159	486795
In 506 Districts, comprising chiefly small towns and country parishes	38963	41324	39382	42930	39839	40775	38738	50258	43956	44317	57205	477682
Total	76280	80822	75440	82339	76792	79708	74877	101663	93435	87762	135364	964477

Population:—Deaths and Mortality per cent. in the Summer Quarters of 11 Years, 1839-49.

	Population		Deaths in 11 Summer Quarters, 1839–49.	Annual Rate of Mortality of 11 Summer Quarters, 1839–49.	Annual Rate of Mortality in the Summer Quarter, 1849.
	Enumerated June 6–7th, 1841.	Estimated Middle of Year 1849.			
In 117 Districts, comprising the chief towns	6,612,958	7,606,737	486,795	2·538	4·110
In 506 Districts, comprising chiefly small towns and country parishes	9,301,190	10,102,279	477,682	1·793	2·265

* The emigration from the principal ports of the United Kingdom in the quarter ended September 30, 1849, was 59,016; viz., from Scotch ports 3,286, Irish ports 9,172, English ports 46,558, according to a return with which the Registrar-General has been favoured by the Emigration Commissioners.

Deaths in London from Diarrhœa in each Quarter of the Years 1840-49.

Years.	Quarters ending			
	March.	June.	Sept.	Dec.
1840....	57	62	279	62
1841....	68	65	228	112
1842....	81	63	489	87
1843....	69	50	455	268
1844....	79	83	414	129
1845....	109	84	449	199
1846....	119	153	1,549	331
1847....	178	202	1,196	400
1848....	244	239	1,048	375
1849....	284	240	2,457	....

Deaths in London from Cholera in each Quarter of the Years 1840-49.

Years.	Quarters ending			
	March.	June.	Sept.	Dec.
1840	3	4	53	6
1841	1	1	23	3
1842	....	7	106	13
1843	6	8	60	14
1844	4	9	47	5
1845	4	2	26	11
1846	7	9	197	15
1847	3	4	98	12
1848	9	17	153	468
1849	516	268	12,847	....

State of the Public Health.—In the five summer quarters ending September 30th, 1845-9, the deaths were 74,872, 101,663, 93,435, 87,762, and 135,364. The deaths in the last summer quarter exceeded the deaths in the summer of 1845 by 60,492; the annual rates of mortality in the two summers were 1·767 and 3·030 respectively; so that the latter exceeded the former by 71 per cent. The average rate per annum of mortality is generally lower in the summer than in either of the other three quarters: during the 11 summers 1838-48 it was 1·983. The annual mortality of the summer quarter 1849 exceeded the quarterly average by 53 per cent. The excess has been caused almost entirely by the cholera.

The mortality will be found to have been very unequally distributed over the country; and to have generally been greatest in the dense town populations. This is evident on comparing the deaths in the 117 districts of the old quarterly return—comprising London, some agricultural districts, and the principal towns and cities—with the rest of England. It will be observed that the average annual rate of mortality in the town districts is 26, in the country districts 18 in a thousand; during the last quarter these numbers became 41 and 23 respectively.

While the mortality has been excessive in 9 divisions, it has been below or little above the average in two divisions—the North Midland and the South Midland—or in the counties of Buckingham, Oxford, Northampton, Huntingdon, Bedford, Cambridge, Hereford, Worcester, Leicester, Rutland, Lincoln, Nottingham, Derby; also in the North Riding of Yorkshire, Cumberland, Westmorland, and North Wales. The difference will be more apparent upon examining the several districts; in some the people have died by hundreds or by thousands; in others not far distant, few have died, the inhabitants have been unusually healthy, the "medical men (says a Registrar) say that they have had nothing to do."

Marriages Registered in the Quarters ending June 30th, 1845-49; Births and Deaths Registered in the Quarters ending September 30th, 1845-49, in the Divisions, Counties, and Districts of England.

Population.		Marriages.		Births.		Deaths.	
		Registered in the Quarter ending the last Day of					
		June,		Sept.,		Sept.,	
		1845....	35,300	1845....	132,369	1845....	74,872
1831.....	13,896,797	1846....	37,111	1846....	138,718	1846....	101,663
		1847....	35,197	1847....	127,173	1847....	93,435
1841.....	15,914,148	1848....	34,702	1848....	140,361	1848....	87,762
Military	29,846	1849....	35,759	1849....	135,200	1849....	135,364

Population 1841; *and Deaths from Cholera and Diarrhœa in London at Eleven different Ages.*

Ages.	Population in the middle of the Year 1841.		Deaths from Cholera and Diarrhœa during 55 weeks, from week ending October 7, 1848, to October 20, 1849.					
	Male.	Females.	Cholera & Diarrhœa.		Cholera.		Diarrhœa.	
			Males.	Females.	Males.	Females.	Males.	Females.
All Ages	913,007	1,037,519	8,749	9,417	6,931	7,607	1,818	1,810
0	113,449	117,292	2,336	2,048	1,108	938	1,228	1,110
5	95,653	98,317	761	682	705	633	56	49
10	88.535	89,271	405	339	381	319	24	20
15	176,825	217,887	755	682	727	651	28	31
25	167,987	199,973	1,022	1,164	993	1,113	29	51
35	121,002	136,253	998	1,309	950	1,235	48	74
45	78,369	88,198	955	1,065	893	998	62	67
55	43,423	51,299	759	942	652	835	107	107
65	20,995	27,882	518	743	384	600	134	143
75	5,982	9,573	203	382	121	253	82	129
85	738	1,478	29	54	9	26	20	28
95 & upwards ...	49	96	...	1	...	...	...	1
Age not stated...	...	...	8	6	8	6	...	...

This table may be read thus:—Of 18,166 persons who died from Cholera and Diarrhœa in the 55 weeks, 2,336 were boys and 2,048 girls under 5 years of age; and 1,108 of the boys and 930 of the girls died of Cholera; 1,228 of the boys and 1,110 of the girls died of Diarrhœa.

Ages.	Annual Rate of Mortality per Cent.								
	Cholera and Diarrhœa.			Cholera.			Diarrhœa.		
	Males.	Females.	Mean.	Males.	Females.	Mean.	Males.	Females.	Mean.
All Ages..	·847	·802	·825	·671	·648	·660	·176	·154	·165
0	1·821	1·544	1·683	·864	·707	·786	·957	·837	·897
5	·668	·575	·622	·616	·531	·574	·052	·044	·048
10	·377	·326	·352	·353	306	·330	·024	·020	·022
15	·378	·277	·328	·364	·264	·314	·014	·013	·014
25	·538	·515	·527	·523	·492	·508	·015	·023	·019
35	·729	·849	·789	·694	·801	·748	·035	·048	·042
45	1·077	1·067	1·072	1·007	1·000	1·004	·070	·067	·069
55	1·516	1·623	1·585	1·328	1·439	1·384	·218	·184	·201
65	2·181	2·356	2·269	1·617	1·903	1·760	·564	·453	·509
75	3·000	3·528	3·264	1·788	2·337	2·063	1·212	1·191	1·202
85	3·476	3·230	3·353	1·079	1·555	1·317	2·397	1·675	2·036

Ages.	Numbers Living to one Death at each Age.								
	Cholera and Diarrhœa.			Cholera.			Diarrhœa.		
	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.
All Ages..	118	125	121	149	154	152	568	649	606
0	55	65	59	116	141	127	104	119	111
5	150	174	161	162	188	174	1,923	2,273	2,083
10	265	307	284	283	327	303	4,167	5,000	4,545
15	265	361	305	275	379	318	7,143	7,692	7,143
25	186	194	190	191	203	197	6 667	4,348	5,263
35	137	118	127	144	125	134	2,857	2,083	2,381
45	93	94	93	99	100	100	1,429	1,493	1,449
55	65	62	63	75	69	72	459	543	498
65	46	42	44	62	53	57	177	221	196
75	33	28	31	56	43	48	83	84	83
85	29	31	30	93	64	76	42	60	49

This table may be read, without reference to the decimal point, thus:—To 100,000 living, the deaths from Cholera and Diarrhœa, at all ages, were—Males 847. Females 802; from Cholera alone, Males 671, Females 648: and from Diarrhœa, Males 176, Females 154; or to 1 death from Cholera and Diarrhœa, at all ages, there were 118 Males living; and from Cholera alone 149 Males living; from Diarrhœa alone 586 Males living to 1 death annually.

Note.—The mortality from Cholera having been suddenly increased, at certain ages, in the three first weeks of the year 1849, in consequence of the outbreak in Drouet's Asylum for Pauper Children at Tooting, a correction has been made in calculating the mortality per cent., as given in the above table, a number equivalent to the average of previous weeks having been inserted at ages 5-10 and 10-15 for the three weeks alluded to. Without this correction the mortality per cent. would have been—At ages 5-10, Cholera, Males ·652, Females 569; and at ages 10-15, Males ·380, Females ·316.

MORTALITY OF THE METROPOLIS.

A Table of the Mortality in the Metropolis, showing the Number of Deaths from all Causes, in the Quarters ending September of the Four Years, 1846–47–48–49.

CAUSES OF DEATH.	Quarters ending Sept.*			
	1846.	1847.	1848.	1849.
ALL CAUSES	12,409	13,187	13,503	27,109
SPECIFIED CAUSES	12,364	13,158	13,450	27,050
I. Zymotic Diseases	3,255	4,102	5,162	17,763
SPORADIC DISEASES.				
II. Dropsy, Cancer, and other Diseases of uncertain or variable Seat	492	548	524	540
III. Tubercular Diseases	2,659	2,370	2,221	2,266
IV. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	1,466	1,416	1,369	1,531
V. Diseases of the Heart and Blood Vessels	351	369	377	455
VI. Diseases of the Lungs and of the other Organs of Respiration	931	1,021	973	1,211
VII. Diseases of the Stomach, Liver, and other Organs of Digestion	1,002	969	858	861
VIII. Diseases of the Kidneys, &c.	138	122	143	143
IX. Childbirth, Diseases of the Uterus, &c.	132	146	103	118
X. Rheumatism, Diseases of the Bones, Joints, &c.	116	109	75	84
XI. Diseases of the Skin, Cellular Tissue, &c	17	23	27	15
XII. Malformations	48	54	44	49
XIII. Premature Birth & Debility	299	298	254	364
XIV. Atrophy	473	481	339	458
XV. Age	487	540	399	558
XVI. Sudden†	63	126	111	184
XVII. Violence, Privation, Cold, and Intemperance	435	464	471	450
1. Small Pox	51	320	435	78
Measles	78	521	154	274
Scarlatina	208	316	1,560	386
Hooping Cough	355	238	340	428
Croup	66	62	63	76
Thrush	113	82	77	67
Diarrhœa	1,549	1,196	1,048	2,457
Dysentery	75	143	171	208
Cholera	197	98	153	12,847
Influenza	6	6	7	9
Purpura and Scurvy	9	22	13	13
Ague	1	6	8	6
Remittent Fever	12	23	18	24
Infantile Fever‡	9	10	8	15
Typhus	403	895	882	710
Metria, or Puerperal Fever, see Childbirth	..	..	52	33
Rheumatic Fever, see Rheumatism	..	..	15	13
Erysipelas	92	126	128	99
Syphilis	28	29	25	17
Noma or Canker, see Mortification	3	9	5	3
Hydrophobia	..	..	..	..
II. Hæmorrhage	42	42	54	56
Dropsy	172	205	193	203
Abscess	14	31	21	22
Ulcer	9	20	15	12
Fistula	3	2	3	5
Mortification	34	41	39	33
Cancer	199	197	189	200
Gout	19	10	10	9
III. Scrofula	84	68	86	85
Tabes Mesenterica	343	306	250	282
Phthisis or Consumption	1,784	1,581	1,534	1,506
Hydrocephalus	448	415	351	393
IV. Cephalitis	165	131	125	134
Apoplexy	273	276	282	282
Paralysis	221	226	213	248
Delirium Tremens	44	29	33	61
Chorea	1	1	3	..
Epilepsy	74	70	70	101
Tetanus	2	4	3	7
Insanity	25	27	16	20
Convulsions	513	521	466	512
Disease of Brain, &c.	148	131	158	166
V. Pericarditis	20	20	30	22
Aneurism	10	18	19	19
Disease of Heart	321	331	328	414
VI. Laryngitis	25	28	36	33
Bronchitis	271	330	357	422
Pleurisy	30	35	22	30
Pneumonia	399	409	388	587
Asthma	95	96	64	62
Disease of Lungs, &c	111	123	106	77
VII. Teething	138	163	117	153
Quinsey	14	16	14	20
Gastritis	28	24	24	22
Enteritis	213	190	166	135
Peritonitis	56	57	62	48
Ascites	26	21	31	29
Ulceration (of Intestines, &c.)	43	41	30	31
Hernia	36	28	25	28
Ileus	35	45	38	40
Intussusception	8	18	17	15
Stricture of the Intestine Canal	11	7	9	6
Dis. of Stomach, &c.	116	102	75	78
Disease of Pancreas	..	1	..	..
Hepatitis	71	56	63	57
Jaundice	42	41	40	41
Disease of Liver	162	158	144	156
Disease of Spleen	3	1	3	2
VIII. Nephritis	6	5	7	7
Nephria (or Bright's Disease)	..	..	39	30
Ischuria	2	2	3	4
Diabetes	8	9	7	8
Stone	9	7	9	8
Cystitis	7	10	8	10
Stricture of Urethra	13	8	12	12
Dis. of Kidneys, &c.	93	81	58	64
IX. Paramenia	4	6	..	2
Ovarian Dropsy	13	3	12	14
Childbirth, see Metria	80	91	57	61
Dis. of Uterus, &c.	35	46	34	41
X. Arthritis	..	3	..	3
Rheumatism	62	45	45	44
Disease of Joints, &c.	54	61	30	37
XI. Carbuncle	1	3	6	2
Phlegmon	7	7	8	7
Disease of Skin, &c.	9	13	13	6
XVII. Intemperance	29	23	15	15
Privation	3	16	2	12
Want of Breast Milk, see Privation & Atrophy	..	..	59	69
Neglect	..	..	4	3
Cold, see Privation	..	..	..	1
Poison	403	425	15	20
Burns and Scalds			31	32
Hanging, &c.			36	35
Drowning			116	96
Fractures and Contusions			156	131
Wounds			26	18
Other Violence			11	18
Causes not specified	45	29	53	59

* The mortality of the district of Lewisham, and sub-district of Hampstead, was included in the Metropolitan returns at the commencement of 1847, for the first time. Therefore the deaths for previous years are not contained in the above table. In the quarters ending Sept., they were respectively (1845) 145, (1846) 192.

† Under the head of "sudden deaths" are classed not only deaths described as sudden, of which the cause has not been ascertained or stated; but also all deaths returned by the Coroner in vague terms, such as "found dead," "natural causes," &c., &c.

‡ In the years previous to 1848, "Worms" and "Infantile Fever" were classed together. The former, of very rare occurrence, is now placed to diseases of digestive organs.

NAMES OF THE PLACES.	Mean Pressure of Dry Air reduced to the level of the Sea.	Mean Temperature of the Air.	Highest Reading of the Thermometer.	Lowest Reading of the Thermometer.	Mean Daily Range of Temperature.	Mean Monthly Range.	Range of Temperature in the Quarter	Mean Temperature of the Dew Point.	WIND.		Mean Amount of Cloud.	RAIN.		Mean Weight of Vapour in a Cubic Foot of Air.	Mean additional weight required to saturate a cubic Foot of Air.	Mean Degree of Humidity.	Mean whole Amount of Water in a Vertical Column of Atmosphere.	Mean Weight of a Cubic Foot of Air.	Height of Cistern of the Barometer above the level of the Sea.
									Mean estimated Strength.	General Direction.		Number of Days on which it fell.	Amount collected.						
	In.												In.	Gr.	Gr.		Gr.	Gr.	Feet.
Guernsey	29·607	61°·0	79°·5	53°·0	10°·0	21°·3	26°·5	52°·8	..	W. by N.	..	31	5·2	4·6	1·3	0·783	5·7	527	123
Helston	29·547	59·7	80·0	41·0	14·0	30·3	39·0	56·2	1·6	Var.	5·6	38	10·5	5·2	0·7	0·879	6·4	527	106
Falmouth	..	59·4	78·0	40·0	16·5	34·0	38·0	..	1·4	W. & N.E.	6·9	41	10·7	..	..	..	..	..	..
Truro	..	58·3	72·0	43·0	10·2	23·0	29·0	..	0·8	W. & E.	6·3	38	16·5	..	..	..	..	..	..
Torquay	29·643	60·2	75·0	46·0	9·9	24·0	29·0	52·6	1·9	W. & E.	..	39	8·7	4·6	1·4	0·773	..	529	..
Exeter	29·656	58·4	79·5	36·0	17·1	34·3	43·5	53·5	1·9	W.	3·7	48	7·0	4·7	1·2	0·795	5·8	528	140
Chichester	..	59·4	78·0	41·0	13·9	31·7	37·0	..	..	Var.	..	..	7·1	..	..	..	..	..	..
Uckfield	29·695	59·7	84·0	36·0	21·6	43·3	48·0	53·1	..	W. & E.	..	31	5·9	4·6	2·1	0·685	5·7	520	180
Southampton	29·560	59·7	83·2	38·0	16·1	38·4	45·2	53·2	0·2	..	5·5	27	8·1	4·7	1·2	0·801	5·8	528	55
Beckington	29·706	58·6	82·0	29·0	21·8	43·3	53·0	50·1	1·0	S.W. & N.W.	4·2	30	3·8	4·4	1·6	0·724	5·2	524	265
Royal Observatory Greenwich	29·588	61·3	84·1	39·5	20·1	40·4	44·6	51·8	..	..	..	30	6·7	4·5	1·6	0·752	5·5	525	159
Maidenstone Hill, Greenwich	29·586	60·2	84·1	42·0	15·8	35·2	41·2	53·4	..	S.W.	6·4	33	6·5	4·7	1·3	0·786	5·8	526	107
Chiswell Street, London	29·558	62·6	87·0	49·0	14·1	30·8	38·0	53·6	..	S.W.	..	..	..	4·7	1·7	0·736	6·0	524	100
St. John's Wood	29·587	60·9	86·2	41·0	20·4	41·1	45·2	54·2	1·6	Var.	6·9	41	6·6	4·9	1·3	0·792	..	524	200
Camberwell	..	60·5	85·0	43·0	15·0	43·3	42·0	54·5	2·6	S.W.	7·4	36	6·0	..	..	..	..	..	..
Latimer Rectory	29·600	61·3	85·0	36·0	24·9	43·3	59·0	51·0	1·6	S.W. & N.N.E.	6·3	42	8·3	4·3	2·1	0·680	5·3	519	335
Aylesbury	29·571	60·3	83·0	36·0	21·4	43·0	47·0	50·8	0·7	S.W. & S.E.	6·3	37	8·8	4·3	1·6	0·726	5·3	523	280
Stone Observatory	29·615	58·7	81·6	36·4	19·6	42·4	45·2	49·7	0·9	S.W. & N.E.	5·6	46	6·5	4·2	1·5	0·739	5·1	524	320
Hartwell (near Aylesbury)	29·545	59·7	85·0	38·0	28·5	42·8	47·0	53·4	1·2	S.S.W. & N.	6·0	32	8·1	4·7	1·1	0·795	5·8	524	260
Hartwell Rectory	29·610	58·7	81·0	38·0	17·3	37·3	43·0	50·7	0·9	N.W. & N.E.	3·9	45	..	4·3	1·4	0·756	5·3	526	260
Saffron Walden	..	58·6	84·0	40·0	16·0	38·3	40·0	..	2·0	S.W.	4·0	36	6·5	..	..	..	..	..	..
Radcliff Observatory, Oxford	29·641	59·2	..	..	..	..	..	52·2	1·9	S.W. & N.E.	7·2	29	6·4	..	..	..	..	..	250
Hereford	..	56·3	..	..	..	..	..	..	..	Var.	..	35	7·8	..	..	..	..	..	..
Cardington (near Bedford)	29·530	59·0	83·4	37·3	27·3	40·9	46·1	52·3	..	W. & N.E.	6·4	36	8·2	4·5	1·4	0·765	5·6	527	70
Norwich	29·508	58·7	81·0	40·0	16·3	35·7	41·0	53·4	..	S.W.	7·3	31	5·1	4·7	0·9	0·841	5·8	529	39
Holkham	29·563	59·4	84·4	39·0	15·0	39·0	45·4	50·6	0·8	S.W. & N.E.	6·7	39	4·7	4·3	1·7	0·717	5·3	528	31
Leicester	29·680	57·5	86·0	33·0	21·9	47·3	53·0	50·2	1·3	S.W. & N.E.	5·5	42	9·8	4·2	1·3	0·777	5·2	529	156
Derby	29·434	57·6	80·0	35·0	13·0	37·0	45·0	51·7	..	Var.	..	45	7·2	4·5	1·2	0·802	5·8	528	39
Highfield House, Notts	29·509	58·4	85·0	33·8	25·0	43·8	51·2	53·6	0·8	S.W. & N.W.	7·1	50	9·0	3·8	0·8	0·849	5·8	527	103
Liverpool Observatory	29·589	59·1	77·6	46·0	10·1	26·0	31·6	49·7	1·2	S.W. & N.E.	6·3	45	10·8	4·2	0·9	0·812	5·3	533	37
Wakefield Prison	29·574	57·9	91·0	33·0	21·8	47·0	58·0	50·2	..	W. & N.N.E.	..	46	4·2	4·2	1·3	0·762	5·1	528	113
Stourton Lodge (near Leeds)	29·548	57·2	82·0	39·0	15·8	36·0	53·0	53·9	1·5	S.W. & N.E.	5·5	45	8·4	4·8	0·7	0·880	5·9	528	148
Stonyhurst Observatory	29·589	55·3	80·5	34·3	15·5	37·2	46·2	50·6	1·2	Var.	7·1	60	18·0	4·4	0·8	0·865	5·3	526	381
York	29·535	56·0	82·0	38·0	14·3	34·3	44·0	53·4	..	Var.	..	37	8·3	4·7	0·8	0·866	5·8	529	50
Whitehaven	29·506	56·2	75·5	42·5	10·5	28·8	33·0	52·1	1·8	W.S.W. & E.	..	49	12·1	4·6	0·5	0·896	5·5	529	80
Durham	29·439	55·5	76·7	37·5	14·1	34·9	39·2	50·6	1·2	S.W. & S.E.	6·7	35	7·3	4·3	0·9	0·820	5·2	523	340
Newcastle	29·533	56·2	76·0	41·0	12·4	30·5	35·0	51·5	..	S.W. & N.E.	..	36	13·3	4·5	0·8	0·808	5·4	529	121
Number of Columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

NOTES ON THE METEOROLOGICAL TABLE FOR THE QUARTER ENDING SEPTEMBER 30, 1849.

The mean of the numbers in the first column is 29·576 inches, and this value may be considered as the pressure of dry air for England during the quarter ending September 30, 1849.

The mean of the numbers in the second column, for Guernsey, and those places situated in the counties of Cornwall and Devonshire is 59°5; for those places situated south of latitude 52°, including Chichester and Hartwell, is 60°1; for those places situated between the latitudes of 52° and 53°, including Saffron Walden and Leicester, is 58°4; for those places situated between the latitudes of 53° and 54°, including Derby and York, is 57°1; at Liverpool and Whitehaven is 57°7; and at Durham and Newcastle is 55°8.

The average daily range of temperature in Cornwall and Devonshire was 12°9; south of latitude 52° was 19°3; between the latitudes of 52° and 53° was 19°3; between the latitudes of 53° and 54° was 17°6; at Liverpool and Whitehaven was 10°3; and at Durham and Newcastle was 13°3.

The greatest mean daily ranges of the temperature of the air took place at Hartwell, Cardington, Highfield House, Notts, and Latimer Rectory; and the least occurred at Torquay, Guernsey, Liverpool, and Truro.

The highest thermometer readings during the quarter were 91° at Wakefield, 87° at Chiswell-street, London, 86°2 at St. John's Wood, 86° at Leicester. The lowest thermometer readings were 29° at Beckington, 33° at Wakefield and at Leicester, and 33°8 at Highfield House, Notts. The extreme range of temperature of the air during the quarter in England was therefore about 56°, considering the true extremes as 86° and 30°.

Rain has fallen on the greatest number of days at Stonyhurst, Highfield House, Notts, Wakefield, and Stone; the average number at these places was 51. It fell on the least number of days at Southampton, Oxford, Beckington and Greenwich; and the average number at these places was 29. The stations at which the largest falls have taken place are Stonyhurst, Newcastle, Whitehaven, and Helston. The smallest falls occurred at Beckington, Wakefield, Holkham, and Norwich. The average fall in the counties of Cornwall and Devonshire was 9·8 inches; south of latitude 52° was 6·9 inches; between the latitudes of 52° and 53° was 6·9 inches; between 53° and 54° was 9·3 inches; at Liverpool and Whitehaven was 11·5 inches; and at Durham and Newcastle was 10·3 inches.

The numbers in columns 15 to 19 show the mean values of the hygrometrical results, from which we find that—the mean weight of vapour in a cubic foot of air at all places (excepting Cornwall and Devonshire), in the quarter ending Sept. 30, 1849, was 4·5 grains. The mean additional weight required to saturate a cubic foot of air was 1·1 grain. The mean degree of humidity (complete saturation = 1), was 0·802. The mean amount of vapour mixed with the air would have produced water, if all had been precipitated at one time on the surface of the earth, to the depth of 5·5 inches. The mean weight of a cubic foot of air under the mean pressure, temperature, and humidity, was 526 grains, at the average height of 155 feet. And these values for Cornwall and Devonshire were 4·8 grains; 1·2 grain; 0·808, 6·0 inches, and 528 grains at the average height of 123 feet.

REVENUE.

Abstract of the Net Produce of the Revenue of Great Britain in the Years and Quarters ending 5th January, 1849 and 1850; showing the Increase or Decrease thereof.—(*Continued from page* 445, vol. xii.)

Sources of Revenue.	Years ending 5th January.			
	1849.	1850.	Increase.	Decrease.
	£	£	£	£
Customs	18,929,360	18,695,798	....	233,562
Excise	12,832,140	12,753,815	....	78,325
Stamps	6,110,848	6,365,475	254,627	....
Taxes	4,314,704	4,303,849	....	10,855
Property Tax	5,347,365	5,408,159	60,794	....
Post Office	776,000	806,000	30,000	....
Crown Lands	81,000	160,000	79,000	....
Miscellaneous	101,166	249,242	148,076	....
Total Ordinary Revenue	48,492,583	48,742,338	572,497	322,742
China Money	539,305	....	....	539,305
Imprest and other Moneys	485,384	559,457	74,073	....
Repayments of Advances	414,251	549,597	135,346	....
Total Income	49,931,523	49,851,392	781,916	862,047
Deduct Increase				781,916
Decrease on the Year				80,131

Sources of Revenue.	Quarters ending 5th January.			
	1849.	1850.	Increase.	Decrease.
	£	£	£	£
Customs	4,682,395	4,720,630	38,235	....
Excise	3,253,162	3,625,061	371,899	....
Stamps	1,472,598	1,509,860	37,262	....
Taxes	1,921,013	1,897,961	....	23,052
Property Tax	424,434	449,394	24,960	....
Post Office	198,000	152,000	....	46,000
Crown Lands	30,000	60,000	30,000	....
Miscellaneous	21,709	58,408	36,699	....
Total Ordinary Revenue	12,003,311	12,473,314	539,055	69,052
China Money	84,284	....	....	84,284
Imprest and other Moneys	123,895	125,087	1,192	....
Repayments of Advances	140,695	124,909	....	15,786
Total Income	12,352,185	12,723,310	540,247	169,122
Deduct Decrease			169,122	
Increase on the Quarter			371,125	

Consolidated Fund Operations.—The total income brought to this account in the quarter ending 5th January, 1850, was 12,737,044*l.* The total charge upon it was 7,486,301*l.*, leaving a surplus of 5,250,743*l.*

CORN.

Average Prices of Corn per Imperial Quarter in England and Wales, during each Week of the Fourth Quarter of 1849; *together with the Average Prices for the whole Quarter.*—(*Continued from p.* 446, vol. xii.)

Returns received at the Corn Office.	Wheat.		Barley.	Oats.	Rye.	Beans.	Peas.
	Weekly Average	Aggregate Average of Six Weeks' regulating Duty.	Weekly Average	Weekly Average	Weekly Average	Weekly Average	Weekly Average
Weeks ending, 1849.	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
October 6	42 4	43 1	27 7	17 5	24 9	29 0	29 5
13	41 4	42 7	28 0	17 2	24 5	28 10	31 8
20	41 1	42 0	28 2	17 4	24 9	29 5	30 3
27	41 7	41 9	28 5	17 2	23 8	28 11	31 7
November 3	41 6	41 8	28 7	16 10	22 9	29 10	29 7
10	40 7	41 5	28 8	16 11	22 6	29 4	30 11
17	40 4	41 1	28 3	16 11	23 7	29 7	30 7
24	40 4	40 11	28 3	17 0	24 0	29 8	30 7
December 1	40 2	40 9	28 1	16 4	24 1	28 6	30 2
8	39 4	40 5	27 5	16 6	23 9	28 4	30 1
15	38 9	39 11	26 9	16 0	22 6	27 8	28 11
22	38 9	39 7	25 9	15 9	22 9	27 5	28 11
29	39 4	39 5	25 9	15 6	24 0	26 11	29 0
Average of the Quarter	40 5	..	27 8	16 9	24 0½	28 8¼	30 1½
Average for the Year	41 3	..	27 9	17 6	25 8	30 2	31 2

Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ending 10*th October*, 5*th November, and* 5*th December*, 1849; *the Quantities Entered for Home Consumption during the same Months; and the Quantities remaining in Warehouse at the close of them.*—(*Continued from p.* 446, vol. xii.)

WHEAT.

Months ending.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1849.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
10th Oct.	408,160	3,791	411,951	428,549	5,146	433,695	54,660	301	54,961
5th Nov.	143,751	1,866	145,617	152,196	1,997	154,193	46,216	170	46,386
5th Dec.	298,000	5,468	303,468	307,776	5,477	313,253	36,662	161	36,823

WHEAT-FLOUR.

Months ending.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1849.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
10th Oct.	172,946	61,524	234,470	216,648	63,466	280,114	29,438	622	30,060
5th Nov.	137,322	51,280	188,602	144,609	51,489	196,098	21,801	282	22,083
5th Dec.	129,443	68,807	198,250	137,687	68,807	206,494	13,557	282	13,839

CURRENCY.

BANK OF ENGLAND.

An Account, pursuant to the Act of the 7th and 8th Victoria, c. 32, for the Weeks ending on Saturday, the 13th October, the 10th November, and the 8th December, 1849.—(*Continued from p.* 447, vol. xii.)

ISSUE DEPARTMENT.

	Weeks ending		
	13th Oct., 1849.	10th Nov., 1849.	8th Dec., 1849.
	£	£	£
Notes issued	28,149,605	28,818,070	29,983,955
Government Debt	11,015,100	11,015,100	11,015,100
Other Securities.....	2,984,900	2,984,900	2,984,900
Gold Coin and Bullion	13,755,528	14,535,993	15,706,878
Silver Bullion.....	394,077	282,077	277,077
Total.....	28,149,605	28,818,070	29,983,955

BANKING DEPARTMENT.

Proprietors' Capital	14,553,000	14,553,000	14,553,000
Rest	3,127,964	3,161,032	3,108,687
Public Deposits.....	5,867,050	6,221,770	8,931,249
Other Deposits	10,814,916	10,352,089	9,519,954
Seven Day and other Bills	1,062,691	1,099,295	1,093,531
Total.....	35,425,621	35,387,186	37,206,421
Government Securities, including Dead Weight Annuities	14,192,871	14,228,068	14,338,973
Other Securities.....	10,732,880	9,753,886	10,016,315
Notes	9,566,980	10,402,390	12,062,290
Gold and Silver Coin	932,890	1,002,842	788,843
Total.....	35,425,621	35,387,186	37,206,421

COUNTRY BANKS.

Average Aggregate Amount of Promissory Notes of Country Banks, which have been in Circulation in the United Kingdom, distinguishing the several Banks, or Classes of Banks by which issued in each part of the Kingdom, during the weeks ending 6th October, 3rd November, and 1st December, 1849.—(*Continued from p.* 447, vol. xii.)

Banks.	6th October, 1849.	3rd November, 1849.	1st December, 1849.
England—Private Banks	3,462,306	3,822,702	3,703,491
Joint Stock Banks	2,577,234	2,779,416	2,703,703
Scotland—Chartered, Private, and Joint Stock Banks.....	3,139,414	3,281,710	3,500,186
Ireland—Bank of Ireland, Private and Joint Stock Banks	4,133,928	4,686,263	4,674,131
Total.....	13,312,882	14,570,091	14,581,511

BANKRUPTCY.

An Analysis of the Bankruptcies in England and Wales, gazetted in each Month of the Quarter ending 31st December, 1849; showing the Counties and Branches of Industry in which they have occurred.—(Continued from p. 448, vol. xii.)

COUNTIES.	October.	November	December
Metropolis	16	20	16
Bedford	1	....	....
Berks	1	3	1
Bucks	....	....	....
Cambridge	1	2	1
Cheshire	....	1	2
Cornwall	....	3	....
Cumberland	1	1	2
Derby	....	1	....
Devon	3	4	1
Dorset	....	....	....
Durham	1	3	....
Essex	5	5	1
Gloucester	2	3	1
Hants	1	...	....
Hereford	....	2	....
Hertford	2	....	2
Huntingdon	1	4	....
Kent	1	....	....
Lancashire	6	6	4
Leicester	....	....	2
Lincoln	....	....	....
Middlesex (exclusive of the Metropolis)	13	12	9
Monmouth	....	....	....
Norfolk	1	1	....
Northampton	1	2	3
Northumberland	2	3	2
Nottingham	....	....	....
Oxford	1	1	1
Rutland	....	....	....
Salop	2	2	2
Somerset (including Bristol)	....	....	....
Stafford	3	4	4
Suffolk	....	....	....
Surrey (exclusive of the Metropolis)	4	7	11
Sussex	....	...	1
Warwick	3	5	....
Westmoreland	....	1	1
Wilts	2	4	1
Worcester	....	3	2
York (East Riding)	3	6	3
,, (North Riding)	3	2	4
,, (West Riding)	3	1	....
Wales	5	2	2
Total	88	114	79

TRADES.	October.	November	December
Agriculture and connected Trades.			
Farmers	3	1	2
Agricultural Implement Makers, &c.	....	3	2
Corn Factors	7	10	....
Millers and Maltsters	....	2	....
Hop Merchants	....	3	1
Brewers	....	....	....
Horse and Cattle Dealers, and Woolstaplers	1	6	6
Mining and connected Trades.			
Mining Firms	....	1	1
Blasting Works	....	....	....
Manufactures.			
Woollen Manufacturers	1	....	2
Cotton ,,	....	....	....
Linen ,,	4	7	3
Silk ,,	1	....	....
Printers and Dyers	....	....	1
Lace Manufacturers	2	....	....
Hosiery ,,	1	....	1
Hardware ,,	2	....	1
Earthenware ,,	1	....	....
Glass ,,	2	4	3
Paper ,,	....	....	....
Builders	....	8	1
Miscellaneous Manufacturers	11	12	12
Commerce.			
Bankers and Merchants	7	9	....
Shipowners, Warehousemen, Brokers, and Wholesale Dealers generally	6	9	5
Retail and Handicraft Trades.			
Bakers	3	....	2
Butchers	....	....	2
Corn and Hay Dealers	2	1	....
Innkeepers and Victuallers	5	7	4
Wine and Spirit Merchants	10	4	....
Dealers in Grocery, Drugs, and Spices	3	....	4
Makers of, and Dealers in, Clothing	10	13	3
Makers of, and Dealers in, Furniture	3	5	2
Coach Builders	....	1	2
Miscellaneous	3	8	19
Total	88	114	79

QUARTERLY JOURNAL

OF THE

STATISTICAL SOCIETY OF LONDON.

MAY, 1850.

Sixteenth Annual Report of the Statistical Society of London. Session 1849–50.

In rendering an account of their stewardship during the past year, the Council have great pleasure in recording a satisfactory progress of the Society in regard to the increasing number of its Fellows, on the one hand, and the further reduction which has been effected in its fixed expenditure, on the other. Means have thus been supplied for an extra number of the Journal, issued in the past year, and, they trust, for the augmentation of the Library of the Society, in those to come. The elections during the session 1848–9 were 29, while the withdrawals were 23 and the deaths 5, leaving an augmentation of only 1; but in the course of the present session 1849–50, the elections have already been no fewer than 23, while the withdrawals have been only 15, and the deaths 3, leaving an increase of 5, being a total increase of 6 since the date to which the numbers were last reported.

The economy effected in the fixed charges has been in the reduction of the payments to the Assistant Secretary and to the Editor of the Journal (equally at the suggestion of the latter), by one-third of their amount, being a deduction of 50*l.* per annum from the former and 25*l.* per annum from the latter; an arrangement which, with a rigid economy in regard to printing, will, it is hoped, enable the Society to apply additional resources to the improvement of its Library. The first fruits of this economy have been anticipated, however, by the extra amount of valuable papers distributed during the past year to the Fellows, in the Journal, and published in its pages alone.

Among the most important of these papers is the "Statistics of the Commercial Progress of the Colonial Dependencies of Great Britain during the Twenty Years from 1827—46," by J. T. Danson, Esq., occupying a whole extra number of the Journal of enlarged size; and those of the "Moral and Educational Statistics of England and Wales," by Joseph Fletcher, Esq., occupying another enlarged number, and containing numerous illustrations by shaded maps, the cost of engraving which was defrayed by their author. Among the other papers included in the Journal of the past year, the Council would call particular attention to those which have successively occupied the attention of its monthly meetings, on the "Relative Value of Averages

derived from different numbers of Observations," by Dr. Guy; on the "Influence of the Division of the Soil on the Moral Condition of the People," by John Barton, Esq.; and on the "Mortality of Master Mariners, with the Application of the Results to the Purposes of Life Insurance," by F. G. P. Neison, Esq.

In the present session, the Council have particularly to express their acknowledgments to Dr. Gutzlaff, for "Contributions to the Statistics of China," and not less for the kind manner in which, in two different meetings, he contributed so largely and agreeably from his stores of personal observation to the instruction of the Fellows in regard to the actual condition of that extraordinary empire.

Neither would they omit all notice of the valuable contributions to social and medical topography presented to us by the paper on the "Origin and Spread of Cholera in Plympton St. Mary," by Mr. Maclaren; or that contained in "A History of the Cholera in Manchester in 1849," by John Leigh and Ner Gardiner, Esqrs., a statistical contribution from a quarter to which the Council always look with great interest, as that which contains the first Statistical Society ever formed in Britain, and the only one which yet survives beyond the limits of the Metropolis. It is with great pleasure that they have to announce its renewed activity on a more popular basis, and their hope that it will supply results worthy of express notice in the pages of your Journal. A Memoir worthy of being ranked with the above, and affording some interesting features of comparison with them, is the "Statistics of Cholera in the Madras Presidency," by Dr. Balfour, presented to the Library by the East India Company.

The meetings of the Statistical Section of the British Association for the Advancement of Science have necessarily a great interest for the Fellows of this Society; and its last meeting at Birmingham was numerously attended, especially on occasion of a highly-interesting and instructive paper by the Chevalier Bunsen, on the "Relative Numbers and Distribution of the Different Races in Germany, and especially in Prussia, with the Statistics of its Progress in Internal Communication, Education, &c." No fewer than thirteen papers were read in the course of the meeting, including that on the "Agricultural Statistics of Ireland, and of the Comparative Prices of Labour and Food for a lengthened series of years," by G. R. Porter, Esq.; on the "Production of Sugar in British India," and on the "Metropolitan Buildings for the Labouring Classes," by Colonel Sykes; on the "Tenure of Land in the Island of Madeira," by the Dean of Ely; on the "Application of Statistics to the Investigation of the Causes and Progress of Cholera," by Dr. Alison; on the "Progress of Emigration from the United Kingdom," and on the "Prices of Grain in France since 1778," by J. T. Danson, Esq.; and on the "Invaliding of Soldiers in the Native Armies of India, showing their relative health and vigour," by Dr. Cuthbert Finch; a subject which had been taken up from a different side by our coadjutor, Mr. C. Balfour, in his valuable "Observations on the means of maintaining Troops in Health," contained in the volume of the Journal which has just been completed.

The Library is a feature of our Institution which demands a renewed and serious attention. Current expenses, with those of special investigations, and of printing, have heretofore absorbed most of the

ordinary income of the Society, and left our shelves but insufficiently furnished; while the rapid accumulation of statistical evidence, in other countries as well as in our own, demands that we should not only render our Library complete as a depository of it, but likewise store it with all the best works which have endeavoured to advance the social sciences, with a distinct and consistent reference to such data; in fact, with every book of authority in each department of those sciences.

Expenditure in books would differ materially and favourably in some respects from any other form of expenditure, since the proceeds would still exist as capital, which, though unproductive in dividends, would be productive of a much higher annual value to the Fellows of the Society, in the facilities afforded to their labours, and would most probably procure more than the income arising from the dividends on any sum expended, through an increase of annual subscriptions from newly-elected Fellows. In any case, the Council are convinced that in this direction lies a profitable course of renewed exertion, and they earnestly recommend a common effort to advance in it.

A subject which will demand the immediate attention of the Council now to be appointed is the Census of the Population to be taken in 1851. In the year previous to the last Census, in 1841, a committee of this Society was appointed to collect and digest the experience of every civilized country in such labours, and its report (contained in the third volume of your Journal, p. 72) is of a character to form even yet a consistent basis for the suggestion of further improvements. The immediate effect of its production was to cause the Government to withdraw the bill actually before the House of Commons for taking the Census in the old methods, by the agency of the overseers, each acting according to his own best and very imperfect discretion, in the production of a gross result, to the accuracy of which he had to swear, without the skill to ensure it. A bill drawn up on the plan contained in your Committee's report was then substituted, and became law. Under this statute, the materials of the last Census were collected through the agency of the Registrars of Births, Deaths, and Marriages, in schedules somewhat diminished from those proposed in our Committee's report, and transferred for abstraction to a central office. The general scheme of the labour will not admit of any such fundamental change as was suggested ten years ago; but the items to be collected in the schedule, and yet more, the extent and construction of the abstracts to be deduced from them, and published for public use, are subjects of a solicitude which the experience of the last Census has only tended to augment. Already this matter has been the subject of an interesting paper by the Rev. E. W. Edgell, read before the Society in its monthly meeting of the 20th of November, 1848; and a second paper by the same gentleman, containing an important suggestion for the preservation and consolidation of the existing parish register records, is of kindred interest, and formed the subject of an interesting discussion in the ordinary meeting of the 19th of November last.

Censuses by actual enumeration, and not by estimates from police data, are not of such frequent accomplishment in eastern cities as to permit an omission from notice of that made in May 1849, in the little island of Bombay, comprising about twenty square miles, and a

population of no less than 566,119 inhabitants, of whom 354,090 are males, and 212,029 females, being a comparative excess of 142,061 males, or 67 per cent. Of the total number, 6,936 were found to be Brahmins, 289,995 of other castes of Hindoos, 1,902 Jains or Buddhists, 124,155 Mahommedans, 114,698 Parsees, 1,132 Jews, 7,456 native Christians, 1,333 Indo-Britons, 5,417 Indo-Portuguese, 5,088 pure Europeans, 889 Siddees, Negroes, and Africans, and 7,118 of other castes not specified. The Europeans are thus less than 1 in 111 of the whole population.

A very interesting document presented to the Society by Colonel Sykes, gives a complete picture of the present state of statistical information in the north-western provinces of the British empire in the East, and gives incidental evidence of a humane and improving administration on the one hand, and a growing confidence among the people on the other, which are exceedingly gratifying. This is a "Memoir on the Statistics of the North-Western Provinces of the Bengal Presidency, compiled from official documents, under the orders of the Lieutenant-Governor," by A. Shakespear, Esq., B.C.S., Assistant Secretary to the Government, and printed at Calcutta in 1848. The Circular from the Government to the Collectors of the several districts gives the following caution, the terms of which, as of the whole communication, were translated into Oordoo, and extensively circulated, in order that the native, as well as the European officers of the Government, might be fully apprised of the object in view:—

"In conclusion, I am desired to impress upon you, that the object of all the inquiries of the nature here indicated is to direct the Government in the preparation of measures which shall be most for the good and happiness of the people. If the people are themselves unable to understand this, and if the diligent prosecution of the inquiry, either from the dishonesty of the agents employed, or from the ignorant apprehensions of the people, becomes the cause of loss or injury to them, it will be better to desist at present from the inquiry, or to be satisfied with a less degree of accuracy than might be otherwise obtained. It is believed that the alarm once felt at inquiries of this nature has already much decreased, and it may be hoped that it will altogether disappear, as information is extended, and as greater confidence is felt in the good faith of the Government. You will be especially watchful to guard against abuses on the part of agents whom you may employ either to furnish returns themselves or to test their accuracy. Unless the objects of the inquiry are explained to the people, and unless trustworthy agents are selected, and kept under strict control, misunderstandings and discontent will certainly prevail.

"Inquiries of this nature (concludes the Memoir) are still new in this country. The prejudices and apprehensions of the people have hitherto resisted their prosecution. But these prejudices have now given way under the better-understood principles of British administration. It is gratifying to be assured by the almost unanimous testimony of every public officer who has been concerned in the formation of this census, that they met with no opposition and excited no alarm by their inquiries.

"But public officers in India have not yet been trained to systematic inquiries of this sort, and accurate results can never be obtained

till the process is well understood and methodized. The present return will therefore be valuable as an experiment, and as a starting-point, whence future inquiries may take their form.

"In this view, it is of some importance to place now on record the course which the experience gained on this occasion points to as the most likely hereafter to ensure accuracy.

"The return should be compiled, not from averages of the number of persons to a house, but from actual enumeration of the people, which should be made on a certain day, to be previously fixed. The best time to take for the operation would be the close of the year (31st December), for it is the period when the people are most at leisure, and when European officers can best move about to direct the operations, to prevent abuses, and to check the returns.

"The names of villages and the area columns may be previously filled up from the latest and best information available, and with the greatest degree of care of which the process is susceptible.

"It is hoped that there is nothing in the preparations or in the proceedings here mentioned which is calculated to alarm or annoy the natives. In order to familiarize their minds with the subject, a translation of this Memoir into the vernacular dialect will be published and circulated to all the public authorities.

"It will remain for the Government, at some future time, when they have reason to believe that the object of the operation is well understood, to determine the time when a new census shall be taken."

Among the more interesting Donations of the past year may be noticed the first volume of the "Smithsonian Contributions to Knowledge," being the first of a series published at the expense and under the direction of the Smithsonian Institution, founded by the will of James Smithson, Esq., an English gentleman, who left his property in trust to the United States of America, to found, at Washington, an Institution which should bear his own name, and have for its objects "the increase and diffusion of knowledge among men." This trust was accepted by the Government of the United States, and an Act of Congress was passed, 10th August, 1846, forming, for its management, a body consisting of the President and the other principal executive officers of the General Government, the Chief Justice of the Supreme Court, the Mayor of Washington, and such other persons as they might elect honorary members. The Governing Council is a board of regents consisting of the President, Chief Justice, and Mayor, with three other members appointed by the Senate from its own body, three by the House of Representatives from its number, and six citizens appointed by a joint resolution of both Houses. Besides the formation of a library, a museum, and a gallery of art, to which half of the whole income of 30,950 dollars is appropriated, the Institution contemplates the increase and diffusion of knowledge by means of original research and publications, to which the other half of the income is applied. Statistics and political economy form one of the three great classes of investigation thus contemplated, jointly with mental and moral philosophy, ethnology, and history. It appears also to be a part of the plan of this Society to cultivate as much direct intercourse as possible with the Scientific Societies of England; and it is with pleasure that the Council have hailed this commencement of an intercourse so promising.

Abstract of RECEIPTS *and* EXPENDITURE *from the* 1*st* JANUARY *to the* 31*st* DECEMBER, 1849.

RECEIPTS.	£	s.	d.
To Balance in the hands of the Treasurer	62	7	3
„ „ Secretaries	2	1	9
Arrears of Subscriptions. 1 for 1845 £2 2 0			
2 1846 4 4 0			
5 1847 10 10 0			
8 1848 16 16 0	33	12	0
271 Subscriptions for 1849	569	0	0
Compositions	42	0	0
Sale of Journal	60	3	9
Dividends	27	11	2
Balance of Library Committee carried to Petty Cash	1	19	4
	£798	15	3
Assets, December 31, 1849:—			
Cash Balance £32 16 6			
Petty Cash Balance 1 15 0½			
Price of Fixtures to be returned on expiration of lease 31 12 0			
	66	3	6½
Stock in the Reduced 3¼ per Cent., £569 17*s.*, cost £567			
„ Consols 3 per Cent., £328 15*s.* 4*d.* „ £300	867	0	0
Arrears of Subscriptions. 1 for 1841, 3 for 1842, 3 for 1843, 8 for 1844, 11 for 1845, 15 for 1846, 25 for 1847, 41 for 1848, 49 for 1849	327	12	0
Deduct Amount not likely to be paid	109	4	0
	218	8	0
Total Assets	£1,151	11	6½

EXPENDITURE.	£	s.	d.
By Rent	150	0	0
Salaries	192	10	0
House Expenses	34	13	9½
Printing	263	14	0
Editing and Advertising Journal	91	0	6
Parcels, including Delivery of Journal and Postages	11	3	2
Library	8	1	5
Fire Insurance	2	10	0
Messrs. Parker, Commission on Sale of Journal	5	17	9
Miscellaneous	4	13	1
Cash Balance	32	16	6
Petty Cash Balance	1	15	0½
Total	£798	15	3

Liabilities, December 31, 1849:—	£	s.	d.
Harrison, Printer	£329	4	2
Vacher, Stationer	11	17	3
Gardner, Oil	4	7	1½
Thorne, Bookbinder	2	16	0
Standidge, Maps	35	0	0
Total Liabilities	£383	4	5½

Examined, Audited, and Approved, (except as to £11 12*s.* 6*d.* expenses of advertising, for which no vouchers have been produced us,)

(Signed) JOHN FINCH,
R. C. GRIFFITH.
WILLIAM FARR.

March 2, 1850.

On the Origin and Spread of Cholera in the 8th District of Plympton St. Mary, Devonshire. By A. C. MacLaren.

The purpose of this paper is to inquire into the origin and spread of Cholera in the 8th district of Plympton St. Mary Union, Devonshire; to exhibit the facts relating to the different grades of the distemper, and their relation to each other; and the influence of age and sex as circumstances predisposing to attack and death.*

To accomplish these objects, the physical features of the district, and the social and industrial condition of the people, are considered.

The ordinary state of sickness of the three last years has been investigated, and a parallel period of six months of each of those years is compared, embracing the associated disorders of influenza, gastric or bilious affections, and diarrhœa. These are distinguished as the cases occur in their particular parish; and in the last period, from Lady-day, 1849, till Michaelmas, their weekly progress is noted; likewise the outbreak of cholera, and the prevalence of its concomitant grades, designated as gastro-choleric irritation and choleric diarrhœa.

A census of the population of each of the chief localities obnoxious to cholera has been made, and tables constructed therefrom, giving the ages and sex, the grade of attack sustained by each, and the result as to death.

Tables exhibiting the ratio of the several varieties to one another are given, and the elimination and interpretation of the facts attempted.

The 8th district of Plympton St. Mary Union comprises the four parishes of Yealmpton, Brixton, Newton Ferrers, and Revelstoke, each respectively containing a population of 1,382, 845, 807, and 709, being in all 3,743. This census is for 1849, and has been computed from that of 1841 by the Registrar-General. In estimating the population of 1849, it has been assumed that it increased since 1841 in the same ratio as between 1831 and 1841, which increase has been deduced from the female population, as being the less exposed to disturbing causes.

The above parishes are rural, containing a population chiefly of agricultural labourers, who, with their families, occupy the villages of Yealmpton, Dunston, Brixton, Boldventure, Newton Torr, Newton Ferrers, and Noss Mayo; the latter village, however, is rather a community of fishermen than of agricultural labourers. There are other localities in which are clustered few or many cottages, often designated, according to their natural site, as torrs or coombes, which, in this part of the country, are generic terms for particular spots, as they may be adjacent to rocks or situated in valleys. The general surface of the country is variegated in hill and dale, extensively and

* The opportunity to observe the progress of Cholera in the district above treated of was afforded me by the kindness of my friend, Mr. Bowie, Government Inspector of Cholera, who invited me to accept the appointment, as an opportunity presenting a most exquisite instance of epidemical severity. My visit thither was for the purpose of inquiry and study. This paper is strictly confined to the facts of this inquiry and their interpretation.—A. C. MacLaren.

pleasantly wooded; the soil generally is light and porous, and in the valleys fine meadow land abounds. Tidal branches of the river Yealm intersect the district in various quarters. In some places there is difficulty in finding spring water, as at Yealmpton.

The condition of the labourer as to whether he is well or badly fed, whether lodged cleanly and comfortably, or in filthy and crowded domiciles, is chiefly here, as elsewhere, affected by his prudence as to marriage, a state which here seems to be early reached and too readily embraced. The miserable condition of many families, it has been found, is much alleviated by the active aid of private charity, a circumstance which will presently be seen to be the only probable explanation of a difference in the reception and spread of cholera between communities of otherwise nearly identical conditions.

The wages of labourers are low, being from seven to nine shillings per week. In many instances, young single men receive less price for their labour than the married, on the plea that the single man can and ought to do with less than the benedict. The earnings of the labourers are further depreciated by the system of truck dealings, or payments made in kind by the farmers, who declare it to be an agreement that the prices shall be uniform and fixed. Whilst the market value is low, this is adhered to on their part, and grumbled at by the labourers; but when prices become higher, the farmer, in general, raises the stipulated price of the commodity of payment—at least, so say the labourers. They allege, too, that invariably inferior samples are supplied to them, and that this state of things has obtained to a greater extent than usual within the last two years.

The dietary of the poor of the whole district may be considered to have been deteriorating since 1846, but especially during the last year. Potatoes having been scarce and dear, were not eaten; and pilchards, which are here supplied at the usual seasons in great abundance, were last year scarce. This circumstance, among the fishermen, was a direct reduction of the means of subsistence; but besides, potatoes, with pilchards, being the staple food, farmers declined buying either for their servants, as involving the expense of the other; and so, for both agricultural labourers and fishermen, there were deficient supplies, dearness, and scarcity; indeed, the last winter and spring have been, in their own language, "very trying." Animal food, in many of their families, has never been more than once or twice a week partaken of, and sometimes not for months. Pork is preferred to all other meats. Pilchards and potatoes, in their season, from August till Lady-day, form the most frequent meals; a mess of onions and potatoes, fried with lard, often comprises the dinner; the breakfast and supper frequently are of milk-broth, milk, however, being rather nominal, for the broth is oftener prepared with water and flour and a little bit of lard or butter, boiled together. The usual beverage is cider, instead of beer, and is drank daily to dinner. Tea and gruelly diets increase in use, and undoubtedly are here becoming too much the food of the labourer. Habits of cleanliness, personal and domestic, are creditably observed by all the poor of this district; their habitations are overcrowded and generally inefficiently ventilated, the dormitories being close, with a small closely-shut window only on one side.

The physical situation or site, and social condition of the village of

Noss Mayo, of the parish of Revelstoke, demand priority and minuteness of notice, from the circumstance of this village having been the first place of the outbreak of cholera in this district, and as having been attended with a general spread of the pestilence, and more than wonted fatality in its results. It will be profitable to draw a contrast between this village and its opposite neighbour, Newton Ferrers, the difference of results from the epidemical visitation being remarkable, and suggestive of its nature and spread.

Noss Mayo is built upon the shores of the creek of that name, which is a recess of horse-shoe shape, on an arm of the river Yealm, a tidal river. This creek recedes into the land about 200 yards in a south-south-westerly direction; at its mouth or opening on the Yealm, it is 90 yards wide; at its landward extremity, it is 40 yards wide. Around, and immediate to the shore, the hills rise precipitately to about 400 or 500 feet, forming a *cul de sac* landward, from which two roads, as two horns, wind circuitously and upwards to the open country, one south-east, the other south-west. Only the north-north-east breezes freely enter the creek, and only high winds from the north-east, nay, effectually, only from the south-south-west, ventilate and clear out the valley and creek.

The village is leeward to every other point. The steadings of the houses in many instances are excavated out of the hill sides, and many houses on the opposite side of the road are on a site beneath it, and are washed by the flowing tide. The hills around are cultivated, except those of the *cul de sac*, which are covered with plantations, and retained as cover for game. These plantations extend down the slopes among the houses at Hill-head, the south-eastern corner of Noss Mayo, and down into the opposite coombes, the south-western corner, tending still further to impede the circulation of air in this already close locality. At ebb-tide, the creek, as indeed the whole arm of the Yealm, is left entirely dry, exposing a bottom of mud and sand, less offensive to the smell than unseemly to the sight, and which, perhaps, it would be but "a foppish lamentation" to complain of, or to attribute to it much influence actively prejudicial to the health of the inhabitants.

The Yealm, though picturesque as a river, as a water-course is but trivial. It is properly to be regarded as an arm of the sea, winding tortuously among hills, and at no place wider than three or four hundred yards. From the English Channel west, off the Mewstone, it enters the land, and runs about three miles north-east along the course of the river Yealm, properly so called, towards Yealmpton; due eastward, a branch is given off, which extends about a mile and a quarter, having, half way along, on the one side, Noss Creek, and on the other, Newton Ferrers; thence, to its extremity, 500 yards further on, along both banks, are straggling cottages, continued around, forming the locality called Bridgend, inhabited by labourers and fishermen. This branch of the Yealm is purely tidal, the ingoing of river water being only by a nameless and insignificant mill lade, too trivial to give a name to the stream. Along the bed of the river, there is a constant current of air, promoted by the tides, of which Newton Ferrers, situated openly on the acclivity of the left or northern bank, receives the full benefit; whilst Noss Mayo, situated obliquely off

the right or southern bank, and in retreat, loses its ventilating influence.

Built upon an ascent, but rising from the water level, and facing right against the opening into Noss Creek, is the village of Newton Ferrers. Therefore, any wind blowing into Noss Mayo, first sweeps over Newton Ferrers, and any wind clearing out Noss Mayo, blows right against Newton Ferrers.

Noss Mayo is chiefly a community of fishermen, and is destitute of gentry, who might exercise charity towards the indigent. Newton Ferrers is as peculiarly a community of husbandmen, with several resident gentry, and an able, willing, and assiduous pastor, who practises a most liberal charity in relieving the poor.

The acquired nuisances of Noss, independently of those due to the retreating tide and fishermen's occupation, are not few. Before and at the outbreak of cholera, many pigs subsisted there, the sties of which were sufficiently filthy, yet perhaps not unusually so. Domestic conveniences—accommodations such as are required by decency—are rarer than in Newton; the dung-heaps are of ashes and garbage, placed before or behind the houses, as the garden may happen to be, and night-soil is chiefly thrown into the tide. In all these respects, Newton is better off, being annoyed with fewer pigs, and better provided with privies and proper receptacles for filth.

In personal character and habits, in temperance and domestic cleanliness, the inhabitants of Noss are equal, if not superior, to those of agricultural labourers generally. In ordinary times, they are perhaps better fed, the occupation of fishermen being better rewarded than that of husbandmen. Although fishermen, they do not appear to consume more in the way of fish than the inhabitants of Newton Ferrers; probably they have almost the same diet of pilchards and potatoes, but more of meat than labourers.

The possession of boats and fishing-nets is a constant ambition of the poorer fishermen. In pursuit of these objects, many of them acquire habits of industry and carefulness which protect them against casual indigence, and raise many to positions of comfort and sufficiency. Such instances are frequent in the personal history of this community, although affluence cannot be obtained by any.

On the whole, in personal character and habits, and in possession of the means of subsistence, this community of humble hard-working men is to be viewed as superior to, and better off than, their brethren the agricultural labourers.

The physical situation of the village, its imperfect ventilation, the recurrent exposure of the mud by the retreated tide, and the necessary arrangements required by fishermen's occupation, point out the inevitable disadvantages particular to this locality and community.

By general opinion, Noss Mayo is famous for the breeding and rearing of large families; it never has been considered less wholesome than other places; and here, as throughout the whole district, there are many aged. There are, however, obscure traditions that, at occasional and remote periods, excessive mortalities had happened in Noss Mayo, concerning which careful inquiry has been made, but nothing specific can be learnt. The largest number of burials recorded in Revelstoke parish during 162 years, is 20 for the year 1805, and of these 12 were

of children who died of scarlatina. There were in 1791 14 deaths, and against the names of two sisters and a brother there is a note in the parish register of burials, that they were paupers, and all died of putrid fever, which that year had raged at Noss. In 1829, measles carried off many children; and in 1842, there was high mortality from scarlatina; which diseases, at the respective periods, were likewise severe at Newton Ferrers.

It is reasonable to believe, that when infectious distempers have been once introduced into Noss, they may act severely, since this locality presents suitable conditions, in the moisture and closeness of the situation, for the propagation and accumulation of the infectious miasma. But there are no proofs or opinions that this locality, in a general acceptation, has ever been considered an unwholesome place. The endemic diseases, or those peculiar to malarial districts, do not obtain here, nor peculiarly any of those of an adynamic or cachectic character. During the epidemic prevalence of cholera throughout England in 1832, that distemper did not reach this place.

The annual mortality of Noss is 1·7 per cent.; of Newton Ferrers, 1·85 per cent. The mean age of the living of Noss is 26·11; of Newton Ferrers, 26·97. The mean age of the dead of the last 35 years for Noss is 37·2; whilst for Newton it is 40·6.

Before the outbreak of cholera, Noss Mayo possessed a population of 400 souls, and Newton Ferrers, of 312. In the first, the males were to the females as 202 to 198; in the other, as 146 to 175. In Noss, there were under 20 years of age 108 males and 99 females; of those 20 years of age, and of all inclusive under 60, there were 72 males and 76 females; and of those of 60 years of age and over, there were 32 males and 23 females. In Newton Ferrers, there were under 20 years of age 77 males and 78 females; and of those 20 years of age and all inclusive under 60, there were 55 males and 75 females; whilst of those of 60 years of age and over, there were 14 males and 22 females.

Of all grades of cholera in Noss, there were 225 cases, of which 16 were cases of gastro-choleric irritation, 120 were cases of premonitory diarrhœa, and 89 were cases of algide cholera, of which 49 proved fatal. In Newton village, of all grades of cholera, there were 78 cases, 19 of which were cases of gastro-choleric irritation, 49 were cases of premonitory diarrhœa, and 10 were cases of algide cholera, 2 of which died. In Noss, of the males under 20 years of age, 29 were attacked by diarrhœa and 25 by cholera; 15 died: of males thence and under 60 years of age, 26 were attacked by diarrhœa and 18 by cholera; 10 died: of males 60 years of age and over, 7 were attacked by diarrhœa, none by cholera; one old man of 87 died of diarrhœa: among females under 20, there were 25 cases of diarrhœa and 23 of cholera; 11 died: thence and under 60 years of age, there were 27 cases of diarrhœa and 17 of cholera; 7 died: of 60 years of age and over, there were 6 cases of diarrhœa and 6 of cholera; 5 died. The first case of cholera declared itself here on the 10th of May, and proved fatal on the 17th; the last case on July the 3rd; and last death on July 5th.

In Newton Ferrers, of males under 20 years of age, there were 12 cases of diarrhœa, no cholera, and no deaths; thence and under 60 years of age, there were 8 cases of diarrhœa, 4 of cholera, and no

deaths; of 60 years of age and over, there were 2 of diarrhœa, no cholera, and no deaths. Among the females under 20 years of age, there were 16 cases of diarrhœa, 2 of cholera, and no deaths; thence and under 60 years of age, there were 10 cases of diarrhœa, 2 of cholera, and no deaths; of those 60 years of age and over, there was one case of diarrhœa and 2 of cholera, who both died. Occasional cases of choleric diarrhœa and gastro-choleric irritation occurred here (Newton) from the middle of June, through July and August, and even for a month after cholera of any grade had altogether quitted Noss.

The progress of cholera in the other villages of this district is less important in elucidation of its spread and character, than in the two already more particularly considered; therefore, for these villages, Brixton, Newton Torr, Boldventure, Yealmpton, and Dunston, a more cursory notice will suffice.

Brixton village is open and situated upon high ground; it contains 319 inhabitants, 154 males and 165 females. The population is of mixed character, composed chiefly of labourers, who are in the ordinary condition of their class; the remainder principally of artisans, who, having better wages than the labourers, enjoy more comforts. During the epidemic season, the poor of this place benefited much by the kindly offices of Captain Young and Mr. Collins Splatt. But few cases of complete cholera occurred; premonitory diarrhœa and gastro-choleric irritation, however, were plentiful. The infrequency of cases of algide cholera is chiefly to be attributed to the vigilance and prompt assistance afforded by the above gentlemen and their families to the sick, who were invited, on the first indications of sickness, to seek their help, night or day, a kindness of which almost all availed themselves.

The ordinary medicines, tincture of rhubarb, chalk mixture, carminatives, and opiates, for this purpose, were kept in stock, and by them administered. Had these duties been neglected, there being no medical resident at Brixton, doubtless many ordinary and mild attacks would have passed on to the more grave and fatal forms. Altogether, there were 10 cases of cholera here (in Brixton), 3 of which were fatal. The first case occurred on the 25th of June, in a female, and proved fatal in 12 hours. The pestilence lingered (occasional cases occurring) till the middle of October, there being on each of the days, the 29th September and 6th October, a fatal case.

Yealmpton village is situated in a valley in the middle of a basin, somewhat upon a height, yet overlooked by the higher and surrounding lands. It is badly off for water. The population may be estimated at about 700, comprised of all classes. The working classes may be regarded as well off, all being in full employment upon works and improvements carried on by the lord of the manor, who, with several gentry, exercises a bountiful charity towards the poor. This community, as to cleanliness and the comforts arising out of full employment, was never better situated than at the period of the outbreak of cholera. Though generally so well provided for, yet, in one respect, their condition was and is deficient. House-room for labourers is not to be had; the fear of undue replenishment, the settlement of vagrants or of the unfortunate of other districts, and the consequent increase of poor's-rate and vagabondage, no doubt, are motives which actuate the

proprietor, who, in every other respect, is the friend and patron of the labouring poor. This repression or limitation of house-building raises rents here, and has begotten crowding of the domicile, particularly of the dormitories of the poor, and of even the better-conditioned. Parents and children, adult brothers and sisters, frequently occupy the same sleeping apartment; and this state is not peculiar to this village, but common to all throughout the district; in rural districts it need not be, in this district it ought not.

In Yealmpton, the deaths from cholera were only 5; the number of cases of choleric diarrhœa were 35, and of gastro-choleric irritation there was abundance, certainly not less than 200 well-marked cases, from first to last. On the 24th of September, the last case of cholera occurred here.

Lower in the valley, separated from Yealmpton only by the stream of the Yealm, and almost at the water-level, are two hamlets, Newton Torr and Boldventure, both in the parish of Newton. These are adjacent, but not contiguous. Newton Torr is open and exposed in its situation, and composed of occasional clusters of cottages. Boldventure is a continuous row of cottages close to a hill-side, and surrounded by plantations, which separate it from Newton Torr. The river Yealm, which is here a stream of fresh water, is about forty or fifty yards off. These localities, though in the parish of Newton, are to be regarded as being of the same community with Yealmpton, to which they are adjacent; and the inhabitants are employed at the same works and in similar occupations. In Boldventure, there are 38 persons, 17 males and 21 females; in Newton Torr, there are 81, 39 males and 42 females. In the former, the number of cases of all grades of cholera was 21, 8 of which were cases of algide cholera; there was but 1 death. In Newton Torr, there were 21 cases of all grades of cholera, 8 of which were cases of algide cholera, 3 of whom died. The first case of cholera at Boldventure occurred on the 24th of June, and the disease continuing to spread, it had entered every house by the 12th of July; not a case occurred here after the 2nd of August. At Newton Torr, a casual case occurred, now and then, up till the 17th of October.

About a mile and a half east of these, is the village of Dunston, situated upon high ground, yet, by greater heights, intercepted from the open country. The inhabitants are altogether agricultural labourers, and generally very poor. The entire population is 137, 66 being males and 71 females. Of all grades of cholera, there were 63 cases, 14 of gastro-choleric irritation, 28 of choleric diarrhœa, and 21 of algide cholera, 9 of whom died.

The first case of cholera in the parish of Yealmpton, occurred in the village of that name, on the 23rd of June, in a man of 72 years of age, who died on the 24th; the next case was his wife, aged 72, who was attacked on the 24th and died on the 25th of June; these were followed by the death of a male of 23 years of age, on the 26th of June; all dying after less than 24 hours' illness; the next was a female, aged 74, a connexion of the first two who died in Yealmpton, whom she had nursed, and whose soiled clothes she had washed, three days after which, on the 28th of June, she was seized at her own house, about a mile from Yealmpton, and died 22 hours after. Half

a mile further on, at Dunston, on the 30th June, a brother of the last deceased was attacked, and died from relapse on the 3rd of July. On the same day, at Dunston, there died a young married woman, who had been nursing her mother-in-law, at Boldventure, and who had died of cholera there on the 1st of July. On the afternoon of the 2nd, this daughter-in-law washed the soiled clothes of her deceased mother-in-law, and thereupon sickened, went home, and died in 12 hours. The next cases in Dunston occurred in these two families, a wife and elderly daughter in the one, and a child in the other. At this time, there was a general spread of one grade or other of cholera among the connexions or associates of these families.

It remains now to inquire into the ordinary condition of the health of the entire district, and the state and progress of sickness, as particular to the period immediate, concurrent, and subsequent to the visitation of cholera.

The sickness for the last three years of the entire community of the 8th district of Plympton St. Mary Union, Devonshire, may be closely estimated. The parochial medical appointment and private practice of this district are altogether in the hands of Mr. Coad, surgeon, at Yealmpton, and not so much as two per cent. of the whole population of the district is attended by any other practitioner. Therefore, from Mr. Coad's day-book and the register of pauper sickness, the data to determine the state of health of the whole community at or for any period so far back as these journals extend, are therein to be found. Perceiving this to be the case, the state of general sickness throughout the district during the last three years has, by the courtesy of Mr. Coad, been traced from these journals. These show the annual amount of sickness to be small, and in ordinary years without anything peculiar in character or prevalence of any particular disease. Gastric or abdominal affections are, numerically, the chief complaints, and are characterized in the register as "bilious." No endemic diseases peculiar to soil, situation, or climate, obtain; and the visitation of cholera in 1849 is the only time that it ever appeared in any part of this entire district, although in districts adjacent, as at Underwood, in 1832, it had been severe. The annual rate of mortality of the whole district is 1·33 per cent. The state of health of the district generally may therefore be pronounced good.

Mr. Coad has been seventeen years a practitioner in this locality, and does not recollect so great a prevalence of diseases of hæmorrhagic character as had occurred since the autumn of 1848, and which, according to his experience, had continued to increase up till the outbreak of cholera. We attach great importance to such a statement from Mr. Coad; we know him to be an able, careful, and accurate observer. The frequent hæmorrhagic complications which cholera presented during this visitation, will yet have to be remarked upon. During the years 1846-47-48, the number of cases of hæmorrhage was, for these years respectively, 3, 4, and 6; and during the epidemic season, of one variety and another, there occurred 11 cases of this order of disease.

Cholera first broke out in this district on the 11th of May, 1849, and in most places had disappeared early in September, and was altogether extinguished by the end of October; a period of time, dating

from Lady-day 1849 till Michaelmas, will therefore include the phenomena precursory, concurrent, and subsequent to cholera, as related to its origin, spread, decline, and extinction.

With this purpose, then, an investigation has been made of the registry of pauper sickness during this period, and, by weekly notations, the progress and relation of sickness to cholera are exhibited.

The quarterly accounts of influenza, bilious disorder, and diarrhœa, for the corresponding periods of 1847 and 1848, are set forth for the purpose of comparison.

It will be observed that, commencing with the second quarter of 1849, from June 23rd till August the 8th, distinctive prominence is given to cases under the head of gastro-choleric irritation. This state has usually been denominated influenza, but we think erroneously so. It differs from influenza in the absence of catarrhal symptoms, bronchial irritation, coryza, and gravedo, likewise in the absence of febrile remissions. It has been confounded with influenza by the similar excessive prostration of vital power, languor, and lassitude. Its own characteristics are oppressive load and constriction at the epigastrium, with feeble pulse and coldness of the extremities; a foul, sodden, and loaded tongue, with flattened papillæ; or clean and exsanguineous, with acuminated papillæ, when it is often tremulous. Frequently there are flying pains, twitches, and cramps of the limbs, and vermicular or tingling sensations. It is distinguished from ordinary gastric affections by the absence of pain upon pressure, and greater constitutional depression, indicative of a distempered state of all the vital forces. This gastro-choleric state we regard as the lowest grade of specific irritation of the choleric influence; and in greater or less degree it affects the general population of infected districts during epidemic invasion. It is often the only grade that presents itself in districts adjacent to infected localities, and in the more healthy and best ventilated quarters of the latter. From the subsequent tables, the amount of its prevalence cannot be estimated. Even in Yealmpton and Brixton, the greater part of the population were in some degree or other affected by it. Timely precautions prevented further development in the cases of many. If its premonitions were neglected, diarrhœa generally set in; or suddenly, often during the night, invasion of the algide form announced itself. In places such as Noss, the disproportion of this grade to the severer is apparent; this may have been from greater concentration of virus in this locality, or from ignorance of its character on the part of those first attacked, and the consequent disregard of its less palpable operations allowing, by neglect, its further development.

In computing the ratio of attacks to the living, and of the numbers attacked to the deaths, this grade of gastro-choleric irritation is left out of the calculation. The weekly register of sickness among the pauper population for the whole of the 8th district of this union shows, in seasons of ordinary sickness, an average of from 5 to 10 cases per week, or about 60 to 100 for the quarter.

During the first quarter of 1847, from Lady-day till Midsummer, there were 9 cases of influenza, 5 males and 4 females, viz., 3 in Yealmpton parish, 2 in Newton, 2 in Revelstoke, and 2 in Brixton parish. Of bilious affections, there were 13 cases, 5 males and 8

females, 4 of which were in Yealmpton, 5 in Newton, and 4 in Brixton. There was not a case of diarrhœa.

During the second quarter, from Midsummer to Michaelmas, there were 3 cases of influenza, 2 males and 1 female; 1 was in Yealmpton and the other 2 were in Newton parish. Of bilious affections, there were 14 cases, 4 males and 10 females; of these cases, 5 occurred in Yealmpton, 5 in Brixton, and 4 in Newton parish. Of diarrhœa, there were 8 cases, 7 males and 1 female; 3 of which were in Yealmpton, 1 in Revelstoke, and 4 in Brixton parish.

During the first quarter of 1848, there were 40 cases of influenza, 13 males and 27 females; 14 were in Yealmpton, 7 in Brixton, 7 in Newton, and 12 in Revelstoke parish. Of bilious affections, there were 7 cases, 3 males and 4 females; viz., 2 in Yealmpton, 1 in Brixton, 1 in Revelstoke, and 3 in Newton. There were 3 cases of diarrhœa, 2 in Yealmpton and 1 in Newton.

During the second quarter of 1848, there were 5 cases of influenza, 3 males and 2 females, 4 of which were in Yealmpton and 1 in Newton. There were 14 cases of bilious affections, 10 males and 4 females; of these, 5 occurred in Yealmpton, 3 in Newton, 2 in Revelstoke, and 4 in Brixton parish. Of diarrhœa, there were 7 cases, 4 in Yealmpton and 3 in Brixton parish.

During the first quarter of 1849, there were 78 cases of influenza, there being from 5 to 8 fresh cases every week throughout the quarter; 38 of these were males, and 43 were females; 24 of the cases occurred in Yealmpton, 14 in Newton, 17 in Revelstoke, and 23 in Brixton parish. Of bilious affections, there were 76 cases, the greater number of which occurred towards the latter end of the quarter, 46 belonging to the June portion, and which, as a precursory and concomitant prevalence of sickness to cholera, may therefore more properly be regarded as denoting cases of specific and related distemper, and, instead of bilious affection, be more aptly designated gastro-choleric irritation; of these 76 cases, 21 occurred in Yealmpton, 8 in Newton, 27 in Noss Mayo, in Revelstoke parish, and 20 in Brixton. Of diarrhœa, there were 124 cases; 12 in Yealmpton, 7 in Newton, 100 in Noss Mayo, and 5 in Brixton. Of cholera, there were 95 cases and 50 deaths, 3 of which deaths occurred in Yealmpton, 1 in Newton, 45 in Noss Mayo, and 1 in Brixton.

During the second quarter of 1849, there were 116 cases of influenza; of which there were in Yealmpton parish 56 cases, in Newton 15, in Revelstoke 11, and in Brixton 34. Of gastro-choleric irritation, there were 70 cases; in Yealmpton 40, in Newton 15, in Revelstoke 2, and in Brixton 13. Of diarrhœa, there were 164 cases; 89 in Yealmpton, 36 in Newton, 15 in Revelstoke, and 24 in Brixton. Of cholera, there were 60 cases; 33 were in Yealmpton, 17 in Newton, 4 in Revelstoke, and 6 in Brixton. There were 21 deaths; of which 11 were in Yealmpton, 5 in Newton, and 5 in Revelstoke.

During the week ending September 26th, there was not a single case of influenza in any of these parishes, nor a case of bilious or gastro-choleric disorder. Of diarrhœa, there were 5 cases, 3 in Yealmpton and 2 at Torr, in Newton; of these, 2 died at Yealmpton.

Subsequent to this period, there occurred, now and then, an occasional case of cholera at various places till October 24th, when the last

case occurred, at Newton Torr. On the 29th of September, a case occurred at Brixton, which proved fatal in six hours. There were also 2 cases at the same place on October 4th, and again 2 on October 6th, when 1 died, after 13 hours' illness. There was a case at Torr on October 4th, which proved fatal in 12 hours; also 1 on October 6th, which recovered; and again, on the 17th October, a child 2 years of age was attacked, and died on the 24th. This was the last case of cholera in this district.

Occasional cases of cholera and diarrhœa had continued to occur up to this period; since, the different grades and associates of the distemper have entirely ceased, and otherwise the general health of the community has been excellent, and sickness below the average. Scarlatina has since prevailed at Yealmpton, but very mildly.

At various times during the progress of the epidemic, but especially notable at its decline, was an affection widely prevalent among infants, which received the appellation of influenza; the chief feature was rapid and shallow respiration, with sibilant wheezing; the pupils of the eyes were contracted, and the child was ever wakeful, and frequently coughed; the countenance was pale, anxious, and oppressed—a look of sickness; purgatives always gave relief, and brought away dark and offensive stools; liquor potassæ, with tincture of opium, in a full dose, subdued the hurry of respiration and procured sleep; half-grain doses of calomel, and quarter-grain doses of quinine, were given every second hour, sometimes alternated for half-grain doses of iodide of potassium, if the infant exhibited strumous taint; the effect generally was profuse discharges of bile, attended with manifest relief, and a more speedy convalescence.

This affection in relation to infants, we believe to stand much in the place of what has been denominated gastro-choleric irritation among the elder and adult population. It closely resembles influenza, with which no doubt it has an affinity; but it appears to mark a mediate state, or one of transition, between the two.

These distinctions obtain in nature, and are well marked; and much of what has been called influenza, might, we believe, be more correctly otherwise distinguished, if not as gastro-choleric irritation. This state, the gastro-choleric, is considered to have been more prevalent than any other grade of cholera during the epidemic season; the least noticed, because the most trivial. We believe it to be a grade of cholera, and interchangeable or convertible by development into diarrhœa, or, per saltem, into malignant or algide cholera.

During the whole period of the visitation of cholera in this district, it never spread among the gentry and farmers, or their resident domestics. Two or three cases of severe cholera occurred in a miller's family at Bridgend, Newton, one of which proved fatal. There were several cases of diarrhœa; and of gastro-choleric irritation and influenza, there was abundance.

Throughout the district, as was before noticed, there are many places called coombs, which often are but a cluster of cottages secluded in the bottom of a dell, steaming in moisture and the closeness of vegetation. In them the atmosphere is oppressive, or fragrant, as it may happen to be calm and still, or stirred and freshly moving. So far as such circumstances generate or attract the morbific poison of cholera,

these localities would seem to be choice and inviting; yet it has not been so, nay, otherwise, since an entire immunity has been enjoyed by them.

The sickness among the better classes, the gentry, farmers, and tradesmen, forming the patients of private practice, was chiefly of the ordinary character, with numerous cases of gastro-choleric irritation and of diarrhœa in addition. Its progress and increase may thus be estimated:—That in usual seasons of this period of the year, the average attendances required by them are from 150 to 200 per month; in the month of April this year, there were 198, in May 259, in June 239, and in July 501. These attendances were for 195 distinct cases, and upon different individuals; and of these, about 125 were cases of gastro-choleric irritation or influenza, 48 were cases of diarrhœa, and 12 were of a graver character, approaching to algide cholera. Among all these, there was not a death. The remainder may be distributed as ordinary cases of general sickness.

This completes our statement of the facts of the case of the 8th district of Plympton St. Mary Union; of the physical features of the locality; of the social, domestic, and industrial condition of the community; of the general or usual health of the district; and of the preceding state of sickness, during a like period, of each of the three last years, more particularly of the period immediate to, and concurrent with, the origin and spread of cholera; also of its different grades of attack, the number and proportion of cases, and the results as to death, and of its decline and disappearance.

We have seen that the locality generally is favourably situated as to cultivation and wholesomeness. The exceptional case of Noss Mayo has been sufficiently dwelt upon, and its peculiarities estimated. We have seen that the community of labourers is conditioned much alike with that of any other rural district; that the years above considered, among them, were seasons of great privation, and the immediate year unusually so.

That the usual health of this community is good, that the amount of general sickness is less than the average, and no diseases peculiar to soil or climate obtain anywhere in the district.

That in 1848, influenza prevailed extensively and was severe; likewise, that there is reason to believe that diseases of hæmorrhagic character, since autumn, 1848, had been prevailing in a more than ordinary degree.

That steadily with the progress of cholera, cases of influenza, of bilious or gastro-choleric irritation, and diarrhœa, increased.

And we have seen that these were never absent during the presence of the epidemic, so that, although these generally have received more distinctive prominence at the approach or rise and fall of the major pestilence, yet, at its acme here, they were present, and in like ratio of increase; therefore there is no reason to believe their simultaneous existence to be incompatible, nor that they are more peculiarly precursory or successory, but rather that as grades they are associates and allied in generic unity.

We have likewise seen, that since the entire disappearance of cholera and its associate distempers, this community has enjoyed a most favourable state of health; and although scarlatina has prevailed, it

has been benign beyond ordinary seasons. We have seen too, that the ravages of cholera have been confined principally to the villages; that it did not equally spread to positions isolated and less frequented; that its chief malignity was exerted in Noss Mayo, which is situated in a *cul de sac*, surrounded by hills, and ill ventilated, where the houses are closely contiguous or opposite at little distance, and between which the different families have much domestic intercourse; that at Newton Ferrers the results were very different, the only apparent or assignable cause being the suitableness of the site, and scattered distribution of the houses for free ventilation; that at Dunston it was severe, and may be attributed more apparently to poverty and free communication than to any other cause; that at Boldventure it was owing to contiguity of the dwellings, frequent domestic intercourse, and confinement of locality; whilst at Newton Torr, the lesser prevalence and occasional occurrence may be ascribed to the unattached and scattered situation of most of the houses.

The foregoing results relating to cholera, and as appertaining to each village and hamlet, have been carefully collected, analyzed, and presented in tabular arrangement. A complete census of the population of each place, distinguishing sex and age, has also been taken, and arranged in quinquennial and decennial periods of life.

The number of the attacked at each period, according to the particular grade of the distemper, as to whether gastro-choleric irritation, diarrhœa, or algide cholera, has been noted; likewise the ratio of the attacked and of the deaths to the living at each period has been determined and set forth for each particular village, and for all combined.

In conformity with these distinctions, the annexed tables are constructed. In Table A, of weekly progress of sickness for the second quarter of 1849, it will be observed, that from the 8th of August, influenza predominates over gastro-choleric irritation, in fact, that this distemper is unrecognized or disallowed; we incline, however, to regard the greater number of these as referable to the head of gastro-choleric irritation. We have purposely avoided attempting to explain the modification of gastro-choleric irritation, or its conversion into influenza; in another place, we have not neglected the question.

Table A represents the amount of cases of influenza, of bilious or stomachic disorders, and of diarrhœa, for the first and second quarters of 1847 and 1848, for the four parishes of the district respectively; and of the same, but with the recognition of the state of gastro-choleric irritation instead of bilious disorders, in weekly occurrence, for the first and second quarters of 1849. The totals for each quarter, for each parish and for the whole district, are respectively exhibited, whereby the relative progress may be distinguished.

TAI

	Parish of Yealmpton.—Population 1,382.				Parish of Newton Ferrers.—Population 807.			
	Progress of the subjoined Diseases.				Progress of the subjoined Diseases.			
	Influenza.	Bilious Disorders.	Premonitory Diarrhœa.	Cholera.	Influenza.	Bilious Disorders.	Premonitory Diarrhœa.	Choler
1847. 1st Quarter. 25th of March till 21st of June.	3	4	...	...	2	5	...	...
1847. 2nd Quarter. 21st of June till 29th of September.	1	5	3	...	2	4	...	...
1848. 1st Quarter. 25th of March till 21st of June.	14	2	2	...	7	3	...	...
1848. 2nd Quarter. 21st of June till 29th of September.	4	5	4	...	1	3	...	...
1849. 1st Quarter. 25th of March till								
April 4.....	2	2	...	...	...	1	...	...
„ 11.....	2	1	...	...	...	...	...	...
„ 18.....	2	...	...	...	2	...	...	...
„ 25.....	...	1	1	...	3	...	...	...
May 2.....	3	...	...	...	...	...	...	...
„ 9.....	2	...	...	...	2	...	...	...
„ 16.....	1	3	...	...	1	...	...	...
„ 23.....	3	...	4	...	...	...	...	...
„ 30.....	2	1	...	...	3	1	3	...
June 6.....	...	2	...	...	...	1	...	...
„ 13.....	3	3	...	...	...	...	...	...
„ 20.....	3	4	1	...	3	2	1	1 c. 1
„ 27.....	1	4	6	7 c.* 3 d.*	...	3	3	4 c.
Total of the Quarter	24	21	12	7 c. 3 d.	14	8	7	5 c. 1
1849. 2nd Quarter.								
July 4.....	4	6	16	5 c. 3 d.	...	3	9	6 c. 1
„ 11.....	10	18	22	2 c.	...	6	11	3 c. 1
„ 18.....	3	7	9	2 c.	...	2	2	2 c. 1
„ 25.....	3	3	2	...	2	1	...	...
August 1.....	6	4	3	6 c. 2 d.	2	2	...	...
„ 8.....	4	2	6	4 c. 1 d.	...	1	4	...
„ 15.....	16	...	15	8 c. 2 d.	1	...	2	...
„ 22.....	5	...	8	5 c. 1 d.	...	...	...	...
„ 29.....	2	...	2	...	...	...	...	...
September 5.....	3	...	...	...	4	...	6	...
„ 12.....	...	...	2	...	3	...	...	3 c. 1
„ 19.....	...	...	2	1 c.	3	...	2	2 c. 1
„ 26.....	...	...	2	3 c. 2 d.	3	...	...	2 c.
Total of the Quarter	56	40	89	33 c. 11 d.	15	15	36	17 c. 5

* "c"—cases

rish of Revelstoke.—Population 709.				Parish of Brixton.—Population 845.				
Progress of the subjoined Diseases.				Progress of the subjoined Diseases.				
nza.	Bilious Disorders.	Premon. Diarrhœa.	Cholera.	Influenza.	Bilious Disorders.	Premon. Diarrhœa.	Cholera.	
	...	...	...	2	4	...	...	Total in the whole District during the 1st Quarter of 1847. Influenza ..... 9 cases. Bilious Disorder ... 13 „ Diarrhœa ..... 0 „ Cholera ..... 0 „ Deaths 0
	...	1	...	...	5	4	...	Total in the whole District during the 2nd Quarter of 1847. Influenza ..... 3 cases. Bilious Disorder ... 15 „ Diarrhœa ..... 8 „ Cholera ..... 0 „ Deaths ..... 0 „
	1	...	...	1	1	1	...	Total in the whole District during the 1st Quarter of 1848. Influenza ..... 40 cases. Bilious Disorder ... 7 „ Diarrhœa ..... 3 „ Cholera ..... 0 „ Deaths 0
	2	...	...	...	4	3	...	Total in the whole District during the 2nd Quarter of 1848. Influenza ..... 5 cases. Bilious Disorder ... 14 „ Diarrhœa ..... 7 „ Cholera ..... 0 „ Deaths 0
	1	...	...	...	...	...	...	
	...	...	...	2	...	...	...	
	...	...	...	4	1	...	...	
	...	...	...	2	...	...	...	Total in the whole District during the 1st Quarter of 1849. Influenza..... 78 cases. Bilious Disorder... 76 „ Diarrhœa..... 124 „ Cholera ..... 96 „ Deaths..... 50
	1	1	...	...	1	...	...	
	...	...	...	1	2	...	...	
	2	...	1 c.	1	3	...	...	
	2	6	4 c.* 2 d.*	2	2	...	...	
	4	8	3 c. 1 d.	2	1	...	...	
	6	10	14 c. 8 d.	2	1	...	...	
	8	34	34 c. 14 d.	4	3	...	...	
	1	29	20 c. 17 d.	1	4	3	...	
	2	12	4 c. 3 d.	2	2	2	4 c. 1 d.	
	27	100	80 c. 45 d.	23	20	5	4 c. 1 d.	
	1	4	3 c. 3 d.	2	2	10	2 c.	
	...	1	1 d.	4	3	8	2 c.	
	...	...	...	4	4	3	1 c.	
	...	3	...	3	1	...	...	Total in the whole District during the 2nd Quarter of 1849. Influenza ..... 116 cases. Gastro-Choleric Irritation ..... 70 „ Diarrhœa ..... 164 „ Cholera..... 60 „ Deaths 21
	1	...	...	7	3	1	...	
	...	2	...	3	...	1	1 c.	
	...	...	...	7	...	...	...	
	...	...	...	2	...	1	...	
	...	2	...	...	...	...	...	
	...	1	...	...	...	...	...	
	...	2	1 c. 1 d.	...	...	...	...	
	...	...	...	...	...	...	...	
	...	...	...	...	...	...	...	
	2	15	4 c. 5 d.	34	13	24	6 cases.	

"—deaths.

No tabular statement has been made of the village of Yealmpton, though one of the principal of the district, nor of Brixton, a considerable one too, further than appears in the table of weekly progress, because the facts pertaining to these were of too little numerical import to educe any characteristic result. It is, however, worthy of remark, that in Brixton, the chief severity of the disease was felt in a locality on the highest site of the village, named Brixton Torr, built as a *cul de sac*, and neither close nor filthy, but door to door, adjacent and opposite in close proximity.

The tables annexed, of the combined districts, exhibit the ratio of attacks and their grade to the living, and the liability to attack and death as related to age and sex.

In this inquiry, the chief importance and interest are directed to Noss. There cholera first broke out, and in one grade or other attacked nearly two-thirds of the entire population, and was mortal to one in every eight of all the living. All facts here, social, physical, and statistical, are therefore worthy of careful consideration. Already the industrial character of the people and their situation, local and domestic, have engaged our attention.

In these respects, comparison was made between it and Newton Ferrers; their juxta-position was pointed out, so was the difference in site, as to free exposure and ventilation; and the resources, condition, and habits of the two populations, were noted. And now, by tabular arrangements of the population in relation to age and sex, we may investigate and more precisely estimate the nature and difference of the results appertaining to the two villages in relation to the spread, the character, and mortality of the pestilence.

TABLE B.

Showing the Number of the Living at the different periods of Life, for the Combined Villages, as specified, and for Noss Mayo and Newton Ferrers distinctively.

Age.	Combined Villages. Comprising Noss Mayo, Newton Ferrers, Bridgend, Newton Torr, Boldventure, and Dunston.			Noss Mayo.			Newton Ferrers.		
	Males.	Females	Malesand Females.	Males.	Females	Malesand Females.	Males.	Females	Malesand Females.
Under 5....	81	71	152	32	23	55	20	23	43
5—10....	88	80	168	28	31	59	31	22	53
10—15....	64	64	128	31	27	58	19	18	37
15—20....	35	49	84	17	18	35	7	15	22
20—30....	57	65	122	16	17	33	8	24	32
30—40....	62	70	132	25	27	52	18	20	38
40—50....	53	55	108	18	17	35	13	18	31
50—60....	46	46	92	13	15	28	16	13	29
60—70....	42	54	96	16	17	33	11	17	28
70 & over	12	18	30	6	6	12	3	5	8
	540	572	1,112	202	198	400	146	175	321

TABLE C.

Showing the Rate per Cent. of the Living at each particular period of Life, to the Living at all Ages, for the Combined Villages, and for Noss Mayo and Newton Ferrers distinctively. Also for England and Wales, and for London.

Age.	Combined Villages.			Noss Mayo.			Newton Ferrers.		
	Males.	Females	Males and Females.	Males.	Females	Males and Females.	Males.	Females	Males and Females.
Under 5....	15·0	12·4	13·7	16·0	11·6	13·8	13·7	13·1	13·4
5—10....	16·3	14·0	15·1	14·0	15·6	14·8	21·2	12·6	16·9
10—15....	11·8	11·2	11·5	15·5	13·6	14·5	13·0	10·3	11·6
15—20....	6·5	8·5	7·5	8·5	9·0	8·7	4·2	8·6	6·5
20—30....	15·5	11·1	13·3	8·0	8·6	8·3	5·5	13·7	9·6
30—40....	11·5	12·2	11·8	12·5	13·6	13·0	12·3	11·4	11·8
40—50....	9·8	9·6	9·7	9·0	8·6	8·8	9·0	10·3	9·6
50—60....	8·5	8·0	8·2	6·5	7·6	7·5	10·9	7·4	9·2
60—70....	7·8	9·4	8·6	8·0	8·6	8·3	7·5	9·7	8·6
70 & over	2·2	3·1	2·7	3·0	3·0	3·0	2·0	2·9	2·5

Age.	England and Wales.			London.		
	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.
Under 5....	13·4	13·0	13·2	12·4	11·3	11·8
5—10....	12·3	11·6	12·0	10·4	9·5	9·9
10—15....	11·2	10·4	10·8	9·7	8·6	9·2
15—20....	10·3	9·1	9·7	19·3	21·0	20·1
20—30....	17·0	18·7	17·7	18·4	19·2	18·8
30—40....	12·0	12·9	12·5	13·2	13·1	13·2
40—50....	9·0	9·3	9·1	8·7	8·5	8·6
50—60....	6·3	6·5	6·4	4·7	4·9	4·8
60—70....	4·3	4·5	4·4	2·3	2·7	2·5
70 & over	2·7	2·9	2·8	0·65	0·92	0·78
				0·08	0·14	0·11

In Noss Mayo, it may be considered that an especial opportunity was presented to the cholera to proclaim its character, to develope its epidemical tendencies, and so to manifest any peculiarity it might have in the selection of its victims for attack and death in respect of age or sex.

As cholera of one grade or other penetrated into almost every family in Noss, excepting only seven, it cannot be imagined that much could have been done to prevent the occurrence of attacks, although much might have been and certainly was done to arrest the development of many from cases of simple diarrhœa into graver or more malignant grades of the distemper.

Table D.

Showing the Number Attacked by the different grades of Cholera, and the Deaths thereby, as occurring at ten different periods of life among the Inhabitants of the Combined Villages.

Whole Population of the Villages and Hamlets. Noss, Newton, Bridgend, Dunston, Newton Torr, and Boldventure.				Gastro-Choleric Irritation.			Choleric Diarrhœa.			Cholera.			Deaths.			Attacks of all Grades.
Age.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males and Females.
Under 5 ...	81	71	152	1	...	1	17	15	32	9	10	19	7	6	13	52
5—10 ...	88	80	168	3	1	4	18	20	38	18	17	35	8	5	13	67
10—15 ...	64	64	128	3	3	6	14	13	27	4	4	8	2	2	4	41
15—20 ...	35	49	84	1	5	6	7	7	14	4	7	11	1	2	3	31
20—30 ...	57	65	122	3	5	8	10	12	22	9	7	16	4	...	6	46
30—40 ...	62	70	132	6	5	11	19	26	45	14	9	23	5	6	11	76
40—50 ...	53	55	108	8	4	12	12	17	29	6	4	10	3	1	4	56
50—60 ...	46	46	92	3	7	10	11	6	17	7	5	12	2	1	3	40
60—70 ...	42	54	96	9	5	14	10	9	19	2	7	9	1	7	8	42
70 & over	12	18	30	1	2	3	2	3	5	1	3	4	1	3	4	11
Total	540	572	1,112	38	37	75	120	128	248	74	73	147	34	35	69	462

Showing the Ratio per Cent. of the Attacked of the Combined Villages by the different grades of Cholera, and of the Deaths, to the Number of the Living at ten different periods of life. Likewise the Ratio per Cent. of Deaths among those attacked by Diarrhœa and Cholera.

Age.	Ratio per Cent. of the Attacked by Diarrhœa to all the Living at the different periods.			Ratio per Cent. of the Attacked by Cholera to all the Living at the different periods.			Ratio per Cent. of the Attacked by Cholera and Diarrhœa to all the Living at the different periods.			Ratio per Cent. of Deaths to all the Living at the different periods.			Ratio per Cent of Deaths to Attacks.
	Males.	Females.	Males and Females.	Males.	Females	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males and Females.
Under 5 ...	21·0	21·1	21·0	11·1	14·1	12·6	32·1	35·2	33·6	8·6	8·4	8·5	25·5
5—10 ...	20·4	25·0	22·7	20·4	21·2	20·8	40·8	46·2	43·5	9·1	6·5	7·8	17·8
10—15 ...	21·9	20·3	21·1	6·2	6·2	6·2	28·1	26·5	27·3	3·1	4·4	3·8	11·4
15—20 ...	20·0	14·0	17·0	11·4	14·3	12·8	31·4	28·3	29·8	2·8	4·1	3·4	12·0
20—30 ...	17·5	18·5	18·0	15·8	10·8	13·3	33·3	29·3	31·3	7·0	...	3·5	15·8
30—40 ...	31·0	37·1	34·0	22·6	12·8	17·7	53·2	49·9	51·6	8·0	8·5	8·2	16·2
40—50 ...	22·5	30·9	26·7	11·3	7·3	9·3	33·8	38·2	36·0	5·6	1·8	3·7	10·2
50—60 ...	23·9	13·0	18·4	16·8	10·9	13·0	41·3	23·9	32·6	4·3	2·2	3·3	10·0
60—70 ...	23·3	16·6	19·9	4·7	12·9	8·8	28·0	29·5	28·8	2·4	13·0	7·8	24·3
70 & over	16·6	16·6	16·6	8·5	16·6	8·3	25·1	33·2	29·0	8·3	16·6	12·5	44·4
Mean	22.2	22·4	22·3	13·7	12·8	13·2	36·0	35·1	35·6	6·3	6·1	6·2	17·5

Table E.

Village of Noss Mayo, Parish of Revelstoke, Devon.

Age.	Population. Number Living at the different periods of Life: Males.	Females.	Males and Females.	Gastro-Choleric Irritation. Males.	Females.	Males and Females.	Choleric Diarrhœa. Males.	Females.	Males and Females.	Cholera. Males.	Females.	Males and Females.	Cholera and Diarrhœa. Males.	Females.	Males and Females.	Deaths. Males.	Females.	Males and Females.
Under 5	32	23	55	...	...	...	7	9	16	8	5	13	15	14	29	7	3	10
5—10	28	31	59	...	1	1	8	7	15	10	12	22	18	19	37	5	5	10
10—15	31	27	58	2	2	4	10	7	17	3	2	5	13	9	22	2	2	4
15—20	17	18	35	...	...	...	4	2	6	4	4	8	8	6	14	1	1	2
20—30	16	17	33	...	...	...	3	6	9	4	3	7	7	9	16	3	...	3
30—40	25	27	52	2	2	4	10	10	20	6	7	13	16	17	33	4	5	9
40—50	18	17	35	...	...	...	6	8	14	4	2	6	10	10	20	1	1	2
50—60	13	15	28	...	3	3	7	3	10	4	5	9	11	8	19	2	1	3
60—70	16	17	33	3	...	3	5	5	10	...	4	4	5	9	14	...	3	3
70 & over	6	6	12	1	...	1	2	1	3	...	2	2	2	3	5	1*	2	3
Total ...	202	198	400	8	8	16	62	58	120	43	46	89	105	104	209	26	23	49

Village of Newton Ferrers, Parish of Newton, Devon.

* The male death was by Diarrhœa.

Under 5	20	23	43	1	...	1	4	4	8	...	1	1	4	5	9	...	...	...
5—10	31	22	53	2	...	2	6	6	12	...	1	1	6	7	13	...	...	...
10—15	19	18	37	1	...	1	2	5	7	...	...	...	2	5	7	...	...	...
15—20	7	15	22	1	3	4	...	1	1	...	...	...	...	1	1	...	...	...
20—30	8	24	32	1	1	2	1	...	1	1	...	1	2	...	2	...	...	...
30—40	18	20	38	2	2	4	6	7	13	1	1	2	7	8	15	...	...	...
40—50	13	18	31	2	1	3	1	3	4	1	1	2	2	4	6	...	...	...
50—60	16	13	29	1	1	2	...	...	...	1	...	1	1	...	1	...	...	...
60—70	11	17	28	...	...	...	2	1	3	...	1	1	2	2	4	...	1	1
70 & over	3	5	8	...	...	...	...	...	...	...	1	1	...	1	1	...	1	1
Total ...	146	175	321	11	8	19	22	27	49	4	6	10	26	33	59	...	2	2

This Table shows the Number of the Living at certain different periods of Life, the Number of those attacked by each particular grade of Cholera, and the Deaths therefrom, for Noss Mayo and Newton Ferrers, respectively.

Table F.

The Ratio per Cent. of the Number of the Attacked by Diarrhœa, by Cholera, and by Diarrhœa and Cholera, at ten different periods of life, to the Number of the Living of each period, for the Village of Noss. Likewise the Ratio of Deaths to Attacks by Diarrhœa and Cholera.

Age.	Gastro-Choleric Irritation.			Diarrhœa.			Cholera.			Diarrhœa and Cholera.			Deaths to Living.			Deaths to Attacks.
	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males and Females.
Under 5 ...	...	...	...	21·9	39·1	35·0	25·0	21·7	23·3	46·9	60·8	53·8	21·8	13·0	17·4	34·5
5—10 ...	...	3·2	1·6	28·6	22·6	25·6	35·7	38·7	37·2	64·3	61·3	62·8	17·9	16·1	17·0	27·0
10—15 ...	6·4	7·4	6·9	32·3	25·9	29·1	9·7	7·4	8·6	42·0	33·3	37·7	6·4	7·4	6·9	18·1
15—20 ...	...	...	...	23·5	11·1	17·3	23·5	22·2	22·8	47·0	33·3	40·2	5·9	5·8	5·9	14·3
20—30 ...	...	...	...	18·8	35·3	27·0	25·0	17·6	21·3	43·8	52·9	48·3	18·7	...	9·3	18·7
30—40 ...	8·0	7·4	7·7	40·0	37·0	38·6	24·0	25·9	24·9	64·0	62·9	63·5	16·0	20·0	18·0	27·2
40—50 ...	...	...	...	33·3	47·0	40·1	22·0	11·7	16·8	55·3	58·7	57·0	5·5	5·5	5·5	10·0
50—60 ...	...	20·0	10·0	53·8	20·0	36·9	30·8	33·3	32·0	84·6	53·3	68·9	15·3	7·7	11·5	15·8
60—70 ...	18·7	...	9·4	31·2	29·4	30·3	...	23·5	11·8	31·2	52·2	42.4	...	8·7	4·3	21·4
70 & over	16·8	...	8·3	33·3	16·6	24·9	...	33·3	16·7	33·3	49·9	41·6	16·6	33·3	24·9	60·0

Village of Newton Ferrers.

Age.	Gastro-Choleric Irritation.			Diarrhœa.			Cholera.			Diarrhœa and Cholera.			Deaths.	
	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.	Males and Females.	Males.	Females.
Under 5 ...	5·0	...	2·6	20·0	17·4	18·7	...	4·3	2·1	20·0	21·7	20·8	...	...
5—10 ...	6·4	...	3·7	19·4	27·3	23·3	...	4·5	2·2	19·4	31·8	24·5	...	...
10—15 ...	5·3	...	2·7	10·5	27·7	19·1	...	...	...	10·5	27·7	18·5	...	...
15—20 ...	14·3	20·0	18·2	...	6·6	3·3	...	...	...	...	6·6	4·5	...	...
20—30 ...	12·5	4·2	6·3	12·5	...	6·2	12·5	...	6·2	25·0	...	6·2	...	...
30—40 ...	11·1	10·0	10·6	33·3	35·0	34·1	5·5	5·0	5·2	38·8	40·0	39·4	...	...
40—50 ...	15·4	5·9	9·7	7·6	16·7	12·1	7·6	5·5	6·5	15·4	22·2	19·3	...	...
50—60 ...	6·2	7·7	6·9	...	...	...	6·2	...	3·1	6·2	...	3·5	...	...
60—70 ...	...	...	...	18·1	5·9	12·0	...	5·9	2·9	18·2	11·8	14·6	...	5·8
70 & over	...	...	...	...	...	...	...	20·0	10·0	...	20·0	12·5	...	20·0

TABLE G.

Showing the Ratio per Cent. of Deaths to the Living at the different periods, for London; for the Combined Villages as below; and for Noss Mayo, respectively.

London.			The Combined Villages.			Noss Mayo.	
Age.	Males.	Females.	Age.	Males.	Females.	Males.	Females.
Under 5....	2·06	1·82	Under 5....	8·6	8·4	21·8	13·0
5—10....	0·79	0·69	5—10....	9·1	6·5	17·9	16·1
10—15....	0·45	0·37	10—15....	3·1	4·4	6·4	7·4
15—20....	0·42	0·31	15—20....	2·8	4·1	5·9	5·8
20—30....	0·60	0·58	20—30....	7·0	....	18·7	....
30—40....	0·82	0·96	30—40....	8·0	8·5	16·0	20·0
40—50....	1·20	1·20	40—50....	5·6	5·6	5·5	5·5
50—60....	1·74	1·85	60—70....	4·3	2·2	15·3	7·7
60—70....	2·5	2·63	70 & over	2·4	13·0	....	8·7
70 & over	3·4	3·98	70 & over	8·3	16·6	16·6	33·3
	3·9	3·65	Noss Mayo, Newton Ferrers, Bridgend, Newton Torr, Boldventure, and Dunston, collectively.				
	0·95	0·90					

TABLE H.

Ratio per Cent. of Mortality from Cholera at each particular period of Life to the whole Mortality from Cholera of each place.

London.			Combined Villages. (As before specified.)			Noss Mayo.	
Age.	Males.	Females.	Age.	Males.	Females.	Males.	Females.
Under 5....	26·7	21·7	Under 5....	20·6	17·1	26·9	13·0
5—10....	8·7	7·2	5—10....	23·9	14·3	19·2	21·3
10—15....	4·6	3·6	10—15....	5·9	5·7	7·7	8·7
15—25....	8·6	7·2	15—20....	2·9	5·7	3·8	4·3
25—35....	11·7	13·3	20—30....	11·7	....	11·5	....
35—45....	11·4	13·9	30—40....	14·7	17·1	15·4	21·3
45—55....	10·9	11·4	40—50....	8·8	2·8	3·8	4·3
55—65....	8·7	10·0	50—60....	5·9	2·8	7·7	4·3
65—75 ...	5·9	7·8	60—70....	2·9	20·0	....	13·0
75—85....	2·3	4·0	70 & over	2·9	8·6	3·8	8·7
85—95....	0·3	0·5					

In Table F, the ratio per cent. of the attacked by diarrhœa, by cholera, and by diarrhœa and cholera combined, to the living, at different periods of life, is exhibited; and the ratio of deaths thereby to the living of these periods is likewise shown. It there appears, that at Noss, the *liability* to *attack* by cholera and diarrhœa combined was *greatest* at the period of life between 50 and 60 years of age, being 68·9 per cent. of all the living of the same period; next, between 30 and 40 years of age, being 63·5 per cent.; and next, between 5 and 10 years of age, being 62·8 per cent. The *liability* to *attack* was *least* among those between 10 and 15, 15 and 20, 60 and 70, and 70 years of age and over, being in the degree of their order as 37·7 per cent., 40·2 per cent., 42·4 per cent., and 41·6 per cent. *Mortality*, as displayed in the column of *deaths* to *attacks*, fell *heaviest* upon those under

TABLE I.

Age.	Noss Mayo.	Combined Villages. (As before specified.)	Noss Mayo.	Combined Villages. (As before specified.)
	Ratio per Cent. of Attacks by Cholera and Diarrhœa to the Living at same periods.	Ratio per Cent. of Attacks by Cholera and Diarrhœa to the Living at same periods.	Ratio per Cent. of Deaths to Attacks of Cholera and Diarrhœa.	Ratio per Cent. of Deaths to Attacks of Cholera and Diarrhœa.
	Males & Females.	Males & Females.	Males & Females.	Males & Females.
Under 5.....	53·8	33·6	34·5	25·5
5—10.....	62·8	43·5	27·0	17·8
10—15.....	37·7	27·3	18·1	11·4
15—20.....	40·2	29·8	14·3	12·0
20—30.....	48·3	31·3	18·7	15·8
30—40.....	63·5	51·6	27·2	16·2
40—50.....	57·0	36·0	10·0	10·2
50—60.....	68·9	32·6	15·8	10·0
60—70.....	42·4	28·8	21·4	24·3
70 & over	41·6	29·0	60·0	44·4
Mean	52·25	35·6	23·44	17·5

TABLE J.

Age.	Noss Mayo.	Combined Villages. (As before specified.)	Noss Mayo.	Combined Villages. (As before specified.)
	Ratio per Cent. of Attacks by Algide Cholera to the Living at same periods.	Ratio per Cent. of Attacks by Algide Cholera to the Living at same periods.	Ratio per Cent. of Deaths to Attacks of Algide Cholera.	Ratio per Cent. of Deaths to Attacks of Algide Cholera.
	Males & Females.	Males & Females.	Males & Females.	Males & Females.
Under 5	23·3	12·6	77·0	68·4
,, 10	37·2	20·8	45·4	37·1
,, 15	8·6	6·2	80·0	50·0
,, 20	22·8	12·8	25·0	27·2
,, 30	21·3	13·3	42·8	37·5
,, 40	24·9	17·7	69·2	47·8
,, 50	16·8	9·3	33·3	40·0
,, 60	32·0	13·0	33·3	25·0
,, 70	11·8	8·8	75·0	88·8
Over 70	16·7	8·3	100·0	100·0
Mean	22·2	13·2	55·0	46·8

5 years of age, excepting the period of life over 70 years of age, in which the numbers are too small to warrant the elimination of fact; as it is, the ratio at this period is 60·9 per cent.; under 5 years of age, the deaths to attacks of diarrhœa and cholera were 34·5 per cent.; and next, between 30 and 40, 27·2 per cent.; and between 5 and 10 years of age, 27· per cent. The *lowest ratio* of *deaths* to *attacks* is 10· per cent., and occurs at the period between 40 and 50 years of age; the next is 14·3 per cent. for the period between 15 and 20 years of age;

and next, 15·8 per cent. for the period of life between 50 and 60 years of age.

Among males, the ratio of the attacked by diarrhœa was highest at the period of life between 50 and 60 years of age, and next at that between 30 and 40, being for these respectively 53·8 per cent. and 40 per cent. Among females, it occurred at the period of life between 40 and 50, and next in those under 5 years of age, being respectively 47· per cent. and 39·1 per cent. Altogether, among females, from 20 to 50 years of age, the average rate is high, being 40 per cent. of all the living between these ages; and among men, from 30 to 60 years of age, the average rate is likewise high, being 42· per cent. Among males, the lowest ratio of attack occurs at the period between 20 and 30 years of age, when it is 18·8 per cent.; among females, it is between 15 and 20, and is 11·1 per cent.

Both among males and females, the ratio of the attacked by malignant or algide cholera was, to the living at the same period, highest between 5 and 10 years of age, and next between 50 and 60, being 35·7 per cent. and 30 per cent. at these periods respectively for the males, and 38·7 per cent. and 33·3 per cent. for the females. Again, among males, it was lowest at the period of life over 60 years of age, next at that between 10 and 15, at all other periods the average being 25 per cent.; and among females, the ratio is lowest at the period between 10 and 15 years of age, and next at that between 40 and 50 years of age.

The *tendency* to *death* by *malignant* or *algide* cholera at the different periods of life is exhibited in Table J. In the column showing the ratio per cent. of the deaths to the attacked by algide cholera at Noss, it appears that at the period over 60 years of age, recovery was almost hopeless; over 70 years of age, the deaths are 100 per cent.; between 60 and 70 years of age, there are 75 per cent.; and between 15 and 20 years of age, the deaths are 80 per cent.; under 5 years of age, 77 per cent.; and between 30 and 40 years, 69·2 per cent. of the attacked. The least fatal period is that between 15 and 20 years of age, the ratio of which is 25 per cent. of all the attacked at the same period; next, at the periods between 40 and 50, and between 50 and 60, being for each of these periods 33·3 per cent. of the attacked.

A comparison of the column of ratio of attacks by cholera with that of attacks by diarrhœa, will show the tendency at one age more than another to lapse into the algide state; and of cholera again with that of the column of deaths, will evince the degrees of resistability or recuperative tendencies of life at its different periods.

Thus, under 5, and between 5 and 10 years of age, and between 15 and 20, there is great liability to attacks of cholera in the severe form, and the mortality at both of the periods under 10 years of age is high, whilst at the period between 15 and 20 it is at its lowest point of all the periods of life, evincing, therefore, in spite of quick susceptibility of the pestilent influence, a recuperative energy or resisting power beyond that of any other period of life. And although attacks of diarrhœa were most numerous between 40 and 50 years of age, yet the malignant stage of cholera ensued least at this period, and mortality was small, being only 10 per cent. of the attacked by both grades, which exhibits altogether the most favourable results for this period over any other, as to power of resistance.

Distinctions founded upon sex seem to be unimportant, for if at any period either is behind, at the next it is beyond, and so the balance is always close.

Of course many circumstances which from their nature are inappreciable, greatly control results, and which, if cognizable, would account for inexplicable irregularities.

Among the poor, nursing care is not so vigilant, indeed it cannot be, over the period of infancy and childhood, as among the better class, and therefore many cases of diarrhœa are neglected till too late, and thus the number of cases of severe distemper and their consequent mortality are much increased. Again, among adult females, the restraints of delicacy lead, although ignorantly, to concealment, till danger is present; and often even men meet the insidious malady with doubt and disregard, till urgent progress declares its deadly nature. It is therefore most difficult, perhaps impossible, to determine positively and with precision the period of life at which the pestilent agency operates most intensely; and the foregoing results must be taken only as approximate of the true indication of age as a predisposing and controlling influence.

In order to ascertain and illustrate the force of age, we applied to the Commissioners of Health for permission to examine the returns of cholera in relation to age and sex, recovery and death. Any information in that department, Mr. Grainger, as chief inspector, would cheerfully have placed at our disposal; but we have his assurance, that amid all the din and labours of the Board of Health, no such data have been received or collected. So that, in fact, opinion and authority, instead of fact and proof, will be the summary of the Health Commissioners.

No doubt there are degrees of virulence of the choleric miasma dependent upon the diffusion or dilute state of the poison, and this was exhibited in Noss; for among the coombes, which are straggling cottages built in the western corner of the creek, on the ascent rising to the open country, where ventilation as to locality is naturally more efficient, the gastro-choleric form of the disease was universally prevalent, but not a case of cholera occurred. In Newton Ferrers, the same state extensively existed, with milder cases of diarrhœa; and such was also the case in the villages of Yealmpton and Brixton.

In Newton Ferrers, only 2 cases of severe cholera occurred. They were aged women, and both died. Diarrhœa occurred here also most severely among those under 10 years of age, being for them 21 per cent.; next, between 30 and 40 years of age, being 34·1 per cent.; altogether, at all ages, there were 49 cases. Of cholera, there were 10, but of a mild character, and more to be regarded as grave cases of diarrhœa than of malignant or algide cholera.

The very poor in Newton Ferrers are prevented feeling the extreme pinch of poverty by the liberal charity and pastoral care of the rector of the parish, the Rev. John Yonge, of Puslinch; but except in this circumstance and the salubrity of the site of the village, which is on an ascent enjoying perflation by the breezes of the river, there are no other circumstances to explain the comparative immunity they experienced from the pestilence which desolated their opposite neighbours in Noss. A reverse state of circumstances seems sufficient to explain

the ravages in Noss. In the peculiarity of its site, perhaps the whole results are explicable. A *cul de sac*, surrounded, overlooked by hills, trenched upon by plantations, and only under certain directions and force of winds cleared out and ventilated, the poison once introduced, being of a propagative nature, was extended, multiplied, and accumulated; the whole atmosphere was contaminated; with insufficient renewal of air, and no dispersion by the winds, there was no escape; every one apt or susceptible was taken up; around every fresh victim, in every infected domicile, the generated and multiplied virulence was longer retained and more slowly diluted; hence universality of spread and virulence of attack. The disease numbered its victims, and only disappeared when it had exhausted the complement; therefore, once clear of it, no fresh cases are heard of, although it lingered adjacent, at Bridgend (a locality through which the inhabitants of Noss daily passed), and made occasional assaults for two months longer. Surely all the susceptible had been already seized, and, like to the habits of contagious diseases, cholera attacked them not again.

No hypothesis attributing to this locality general unwholesomeness of condition, will suffice to account for the origin, spread, and mortality of this visitation. The circumstances of its tidal stream, the recurrent exposure of its bottom of mud, and fisherman's occupation, however much they may be reprobated, cannot explain the matter. Newton Ferrers is subject to the same allegation, qualified certainly by the circumstance of perflation by currents of air, which of course means dilution and destruction of virus. But if filth attends the vocation of the people of Noss, cholera broke out before the fishing season, therefore before its consequent influence had been engendered; besides, at the advent of this season, and through its continuance, from the end of July through August and September, when the filth of occupation, if there be any, was now in full force, and all ordinary habits had been resumed, although it still lingered at Bridgend, not 300 yards off, it did not reappear in Noss, nor did cholera visit this place in 1832, or ever before; and then or previously the locality was not better situated—not morally as to sobriety, nor physically as to cleanliness, for then (in 1832), these people were, in addition, often engaged in smuggling. Further, there have been no diseases here peculiar to the soil or situation, in proof of general or particular unwholesomeness; intermittent and remittent fevers are unknown; malignant cachexiæ are infrequent; erysipelas and dropsies, or such affections as infest a community subject to influences constitutionally deteriorative, have here no undue prevalence; the exanthematous fevers of children, it is true, seem every 10 or 15 years, during the last 50 or 60, to have committed much havoc.

In 1827, at Noss and Newton Ferrers, many children died of measles, and in 1842, of scarlatina. In the first village, at those two periods together, the deaths amounted to 30, and the average age was under 6 years. In the latter, Newton Ferrers, in and at the same periods, 15 died, and their mean age was under 4 years. Periodical epidemics of such diseases, in the absence of general sickliness, however, but prove the influence and difference of contagious spread in such localities.

The population returns prove the community of Noss Mayo, as

the whole of this district of St. Mary Plympton, to be much above the average of all England and Wales in healthfulness. The distribution of the population of Noss as to age is such as, submitted to the average rates of all England for the respective ages, would exhibit a mean annual rate of 2·4 per cent.; whereas the actual annual mortality of Noss is 1·71 per cent., being a difference in favour of Noss of 0·7 per cent., and equal to a diminution of more than a third of the intensity of the average rate of mortality for all England; *e. g.*, supposing the general population of England and Wales transferred to Noss, and alike conditioned, instead of sustaining their ordinary mortality, for every 100 deaths, only 71 would accrue.

The mean annual mortality of Newton Ferrers is 1·85 per cent. The mean age of the dead belonging to Noss, during 35 years, from 1812 to 1847, was 37; of those belonging to Newton Ferrers, it was 40 years. Of the dead in Noss, 42·0 per cent. have died under 10 years of age, 32·7 per cent. between 10 and 70, and 25·0 per cent. at 70 and over; of those in Newton Ferrers, 32·7 per cent. have died under 10 years of age, 34·5 per cent. 10 to 70 years of age, and 32·7 at 70 years and over; whereas of the dead of England and Wales generally, 44·0 per cent. have occurred under 10 years of age, 40·0 between 10 and 70 years of age, and 14·0 per cent. at 70 and over; thus evincing a higher expectation of life for the inhabitants of Noss and Newton than for the average of England. Of the living in Noss before the outbreak of cholera, the mean age was 26·11; in Newton Ferrers, it was 26·69.

The general wholesomeness of this locality is further illustrated by the facts of its census, which are exhibited in Tables B and C. In Table C, the ratio per cent. of the numbers living at different periods of life to the whole population is shown, and of males and females distinctively. These facts are exhibited for Noss Mayo, for Newton Ferrers, and the other villages as specified, for each separately, and combined for all collectively.

The same is shown for England and Wales and for London. A comparison between these declares a duration of life greatly in favour of the combined districts over the whole of England and Wales, and nowhere in the district are facts more favourable than for Noss Mayo. In these communities of the combined villages, on 100 lives, about 320 years more is distributed than on the same number of the average of all England. Inspection of the columns of ratios (Table C) shows for Noss Mayo and Newton Ferrers, that the number living under 15 years of age and in each of the quinquennial periods thereof, is higher than the average of all England. This is due to emigration; many youths quit these parts to man the navy, and the females seek service among the farmers; of course it is not due to mortality. From 30 years of age, they are about equal to the average of all England up till 50 years of age, when, till the end of life, the number of aged are proportionally higher for both villages, over England and Wales, to an extent of 50 per cent. The excess of those under 15 years of age over the general average, no doubt, in some degree, is due to active supplies, for in Noss, all enter early into marriage; nevertheless, the locality must be healthful for children, excepting the periodical visitations of exanthemata, and more are reared than the average. There are living in Noss, under 15 years of age, 43 per cent. of the living at all ages;

in Newton Ferrers, 42 per cent.; whilst for England and Wales, the ratio is 36 per cent, and for London, 31 per cent. Certainly the emigration of those between 15 and 30 years of age from Noss and Newton enhances the ratios for the above periods, and for those in the after part of life, not more, however, than 10 per cent. And supposing the emigrants to be replaced or returned, the ratios for the above periods and for those of the after life would still far exceed the average of England and Wales.

But the circumstance of an emigrant portion cannot tell only in that way; it must be viewed as diminishing the stock for the supply of the aged; and probably this circumstance depreciates the actual ratio of those over 50 and 60 years of age, more than the absence of them numerically enhances the same. As it is, in Noss, over 50 years of age, there are 18·8 per cent. of the whole population, and in Newton, 20 per cent.; whilst in England and Wales, the average is 13·6, and in London, after 45 years of age, there are only 16·5 per cent.

It appears, therefore, incontestible, that the circumstances of Noss Mayo are such as eminently favour health and long life; that the general or ordinary mortality is low, and when high, that it is due to contagious distempers of casual occurrence, as introduced; that, otherwise, influences prejudicial to human life are here less than usual, and the sources of disease therefore beneath the average. Nevertheless, although the circumstances generative of disease are feeble, yet those of harbouring and extending miasmata of propagative nature are peculiarly complete, and that therefore the contagious poisons once having been introduced here, are retained, propagated, and accumulated, thereby tending greatly to aggravate the virulence and spread of these specific distempers, which are only diminished by means diluting and dispersing the miasmata by exposure to current air.

In our inquiry, as yet, of all the circumstances, physical and social, which have been discovered and enumerated, none account for the *origin* of cholera in this community. We believe, however, that the true cause can be assigned—that it is known. In a locality such as this, where the diseases peculiar to soil or situation, where those of endemic character, are altogether wanting—among a people who enjoy more than usual immunity from general sickness—who possess a duration of life much surpassing that of the average community—whose children are reared to adult age, and whose adults, in greater proportions than those of the country at large, have their days prolonged into old age—it is idle, without peculiar proof of undue sources of disease, by hypothetical fancies to call up occult and unknown causes—to ascribe to fanciful states of local distemperature, atmospherical or earthy, those results so mortal to this people; at one time, to ascribe to natural or external agency—to corruption or disjointure of the elements, the origin and travel of this pestilence; at another, to explain its efficient generation by local conditions of general unwholesomeness, thus to hedge it round and circumscribe its source, and all without a sign visible, palpable, or in any way sensible, in proof of a local or peculiar, a natural or conceivable, agency. It surely is unwise to cling to these conjectures—of a presence unseen, an influence evoked, and regulated by no law, and to ignore the only rational notion,

namely, the analogous origin and spread of the contagious or pestilential distempers.

It has been held, that the choleric influence travelled on the winds, shooting along in streams, and, as in support of every hypothesis, instances in proof have been given. In this district, houses having a thorough exposure were found to have had an inmate attacked with "the disease," or "something like." Some of the earliest cases, too, occurred out at sea, whilst fishing; thus, a boy purged before he left his home at Noss the same morning, and repeatedly whilst rowing off to the fishing station, suddenly complained to his father of insufferable heat, and from the moment became much worse; he was rowed back, and at home, a few hours after, died. It was true the boy felt it at once to become hot, so did the father, and it was in the air, it was a hot blast, and, *in propriâ persona*, it was the cholera. This instance, with many persons, yet remains an irrefragable proof of its atmospherical nature; it needs no comment. Did the cholera pass in the course of the wind, or on its own path, as a stream, by *vis a tergo*, it must first have careered over Newton Ferrers, before entering Noss, as already shown in their related position, else have been dropped from above.

But at Noss, a coast village, as perhaps at all other ports, when these have been the first places of invasion of a country, there had been foreign intercourse, communication with Dieppe, in France, at the time it was an infected town, when cholera raged there. From the end of April, French vessels from that port to Noss had been going to and fro, and in the second week of May, one lay in the Yealm. The fishermen of Noss were daily on board, offering their fish for sale. Robert Foster, the first inhabitant of Noss who was attacked, and the first who died, of cholera, had been several times on board; he was taken with purging on the 10th of May, went to sea the same day and the day after, and on the latter day he and his partner boatman were both on board the French vessel; they left together, and went to a farm-house, where Foster had half a pint of cider, as he felt thirsty; going home, he became much worse, was attacked virulently, and in the stage of reaction, he died on the 17th. Mr. Coad, his medical attendant, suspected cholera at the time. Two days before Foster's death, Reeves, his partner boatman, was attacked with diarrhœa; next, his child, severely with cholera; both recovered. While Foster lay dead, his niece, a child in the same house, was attacked, and died twenty-four hours after. Next, another child of Reeves' was attacked on the 24th, and died twenty-four hours after. There was now a lull.

Foster's house is situated on a height, exposed to the north-east, at the entrance of the creek, and protected from winds by a clump of trees. Reeves' house is situated on a height, and surrounded by trees, at the furthermost quarter of the village, at the head of the creek, and considerably off the shore.

On June the 3rd, four cases occurred; these were Jackson and his wife—he, a fisherman, had had dealings with the Frenchmen; the others were Mashford, a labourer, and a labourer's child; all of these cases were fatal in a period from 6 to 30 hours. The houses of Jackson and Mashford are apart, distant, on opposite sides of the creek, and facing Newton Ferrers; Jackson's is one of a cluster of two

or three, detached from those of the village, and situated on a height; Mashford's is the next house to Foster's, but detached from it or any other.

The next cases of cholera were relatives of Jackson's wife; on the day of her death, a nephew and niece were attacked, and died next day; her mother, in the next house, who had nursed her, was attacked and died on the 7th, and her daughter likewise on the 8th; next, Chissel, the partner boatman with Jackson, was attacked and died on the 9th of June.

The pestilence was now epidemical, numbering its several victims every day, till thirty days after, when it finished, having accomplished in this usually wholesome month of June the work of ten years' mortality. We regard these as instances of spread by contagion; the first cases admit of no other interpretation; they are examples as patent to ordinary circumstances in their occurrence and progress as the cases of any other contagious malady. The first person attacked was a man of sober and regular habits, a strong and healthy man, and who lived in a house wholesomely situated; he was daily on board the French vessel which had arrived from an infected port. Did he not there contract the disease? Following him, the first victims were his associates, or, like him, fishermen who trafficked with the same crew. From these, were they not recipients, in themselves, of some morbific influence, or mediatory of it to others? If not, what was there peculiar in Foster, or in the circumstances that he was exposed to, and in his immediate connexions and associates, that they in related sequence should first be attacked?

We care not to affirm where the virus lurked, whether in the rigging or material of the craft, on the clothing, or in the systems of the crew; whether it could subsist externally, exposed, and remain undissipated or undecomposed; or in the living systems of the crew, and be circulated innocuously through its habituated agents, yet from them be emitted as pestilent virus to strangers and fresh comers; whether it was directly communicated from man to man, and, constituting each an additional agent, propagative, by generative force, through his own system, or as a conductive agent, by communication, in his own sphere; or whether, by general infection of the atmosphere, as a morbid seminium, a foreign infection was introduced and propagated by assimilation with atmospherical, organic, or earthy elements, impurities peculiar to the locality. This much we think the facts of the case proclaim: the disease was imported; the French vessel or its crew was the medium of infection, and the earlier cases were instances of direct contagion, and its epidemical progress and intensity was due to general distemperature, that is, infection of, diffusion, or rather propagation in, the atmosphere, favoured by the nature of the locality.

Unequivocal instances of contagious communication abound, but we know no case more illustrative and convincing than this, for which we are indebted to the Rev. John Yonge, rector of Newton parish:— He writes, from Puslinch, "There occurred a remarkable instance about the 17th of September; a little boy, living at a farm-house called Newton Downs, half-way between this place and Newton, was sent with a horse to be shod at Bridgend, and, in Bridgend-lane, met the funeral of the miller's son, who had died of cholera, coming up;

he said he felt a shiver all over him as he passed it; he went to his master's, and in a few hours was taken ill; his master gave him some medicine, but as he became worse at night, he sent him the same night to his mother's, at the village of Creacombe; for a day or two he appeared better, but again became worse, and died. His mother and sister were both taken very ill, but recovered; they evidently contracted the disorder from this boy, as it was not in the village, nor did it extend beyond that house." This instance proves transference to an uninfected village, spread in the household imported into, and failure of further or general spread among those less exposed to the specific intensity of the virus. Such instances, and the facts of occurrence and spread in Noss, of location and spread in Brixton Torr, and of its connected propagation from Yealmpton village to Dunston, as already told, and of its history and progress in this latter place, where cholera was next to Noss in severity, by occasional visits embracing one household and spreading to those of consanguinity and social connection, all substantiate the same position of a contagious virus.

We have now completed our inquiry into the origin and spread of cholera in the 8th district of Plympton St. Mary, and believe it to warrant these conclusions: 1. That it did not owe its origin to any peculiar condition of physical or social circumstances in the locality, engendering general or particular unwholesomeness, insomuch as the general health of the entire community is ordinarily good, and diseases particular to soil or situation do not obtain; and further, that since in many coombes or dells, in low, confined, and damp situations, inhabited by labourers of the poorest class, presenting a conformation of circumstances, physical and social, such as by many have been indicated as the special nidus or habitat of cholera, that in these, nevertheless, entire immunity was enjoyed, a circumstance which can only be ascribed to their sequestered situation, unfrequented by promiscuous passengers, and the rarity of their own communication with the villages.

2. That as, in its origin at Noss, the first selected for attack and death were inhabitants living in houses airily situated, high from the water level, and some comparatively off from the shore, therefore the selection was not determined by the low or unwholesome situation of the residence; neither was it due to destitution, nor any constitutional peculiarity or defect of vigour, apparent in the first attacked, for these were sufficiently well off—they were robust, and had enjoyed good health; nor to any influence in the water drank, which was spring water from wells. Thus its generation cannot be attributed to any external agency appertaining to the ordinary physical and social conditions of locality.

3. That if there were any sickness precursory to the outbreak of cholera, it was of hæmorrhagic character, and had been observed by Mr. Coad to have been unduly prevalent since the autumn of 1848, and which we ourselves observed, as complications of gastro-choleric irritation, to preponderate over the average of the season. Whether this circumstance is related to the pathology of cholera, must be determined by more extensive observations. If, however, this circumstance were accidental, there is then no proof of any other precursory state of sickness, immediate to the outbreak of cholera; and

therefore no proof of peculiar epidemic constitution of atmosphere, disposing to general or particular sickness, other than grades of its own specific kind premonitory of its approach or presence.

4. That, however, its lower grade, gastro-choleric irritation, spread in districts adjacent to the infected quarters; and, as at Yealmpton, this state generally was extensively prevalent, and coincident with occasional cases of diarrhœa, and these, though infrequently, were interspersed with cases of algide cholera. That while these degrees of attack may be considered to exhibit less or more susceptibility, or proneness to subjection by the choleric virus; yet more certainly they proved degrees of virulence of the agent, or strength of the dose, and which, as evinced in their respective phenomena, constitute but grades of action of one specific distemper. That these degrees and their greater or less prevalence arise from diffusion and greater or less dilution of the virus, which at length becomes so dilute as to be innocuous, and is at last decomposed, destroyed, and extinguished.

5. That the gastro-choleric irritation is specifically choleric, and, like premonitory diarrhœa, only a degree of the same agency; and that being often confounded with influenza, it has led to the misconception that influenza is the natural and immediate precursor, and successor of cholera.

6. That, however, these were associated throughout the whole period of the epidemic, and therefore are not incompatible, but rather related to each other, the influenza to the choleric virus, the first being a degradation of the second—a degeneration from the specific intensity of either grade of the choleric virus, rather than a distinct entity.

7. That the periods of life *most liable* to attack and death were those under 10 years of age; next, between 30 and 40, and 50 and 60. The periods *least liable* to attack were those over 60 and between 10 and 20 years of age. The periods of *least mortality* in ratio to attacks by diarrhœa and cholera, were those between 40 and 60, and 10 and 20 years of age. The periods of *greatest mortality* in ratio to attacks by diarrhœa and cholera, were those over 60 years of age, next under 10, and next between 30 and 40 years of age.

8. Lastly. That cholera originated in this district by importation from Dieppe; that the first cases arose from infection by the crew or craft of the French vessel; that it spread by contagion from the attacked to their immediate connexions; to associates by traffic, by friendly intercourse, by consanguinity; that it almost universally attacked the inmates of the same household and dormitories especially; and that at Noss the epidemic virulency and spread was due to a concentration of distempered emanations from the attacked, which emanations were not sufficiently dispersed, owing to the closeness of the locality; that it is also probable the propagation was facilitated by the moisture arising from the tides, and by exhalations from the surrounding plantations, which, however, are innocuous under ordinary circumstances.

The author of this paper is indebted to the liberality of the Registrar General for the use of documents in his department, which were valuable in rectifying or verifying other information; to Mr. Farr, for much kindness in the facilities rendered in making those enquiries,

which otherwise would have been extremely laborious; likewise to Mr. Duke Yonge, of Puslinch, Devon, who made a tabular statement of the ages of all the dead of Noss Mayo and Newton Ferrers, for the last 35 years, gave definite value by his analysis and distinctions derived from local knowledge, to statements of retrospective importance, which otherwise would have been worthless or erroneous: to Mr. Coad, of Yealmpton, for much valuable information derived from his intelligent conversation: to Mr. Spenser, too, for many returns of the state of sickness until the entire disappearance of cholera: and to Mr. Pearse, the district registrar, for much troublesome service, always cheerfully rendered.

Abstract of the Report of a Tour in the Five Departments of Brittany, during the Years 1840 *and* 1841, *under Instructions from the Academy of the Moral and Political Sciences, made by* MM. Benoiston de Chateauneuf *and* Villermé, *Members of that Academy; from the Fourth Volume of the Memoirs of the Academy of the Moral and Political Sciences of Paris.*

[Read before the Statistical Section of the British Association at Swansea, August, 1848.]

We beg to submit to the Academy (say these reporters) an account of the mission which it has confided to us; to communicate what our journey has revealed to us concerning a country which, although united to France for several centuries, has nevertheless always remained, in some respects, entirely distinct from it; and which, while a general revolution has changed everything—has renewed everything—around it, still presents intact, to the astonished traveller, its ancient manners, costume, and language.

Brittany projects into the ocean between the Bay of Biscay on the south and the English Channel on the north, in the form of an elongated triangle, having its base on the borders of Normandy, Maine, Anjou, and Poitou, and its sides washed by the waves. This sort of peninsula, about 70 leagues (French, of nearly $2\frac{1}{2}$ English miles) in length, and 45 in its greatest breadth, presents a surface of 3,388,850 hectares (nearly $2\frac{1}{2}$ English acres), or 1,715 square leagues. A double chain of mountains, whose height nowhere exceeds 400 metres, or about 1,300 feet, and which extends from east to west, incloses within its bosom a great part of the country, and appears to isolate it from the rest. Thirteen centuries have elapsed since the unhappy remainder of a conquered people, flying before a pitiless victor, placed the sea between him and them, and came to seek refuge in this part of Gaul, then called Armorica. These fugitives were the old inhabitants of Britain, and their stern enemies, the Saxons. At this period, that is, about the middle of the sixth century, Armorica changed its name for that of Brittany (says one of the most celebrated modern historians of France), while Great Britain nearly lost its ancient name, to take that of England. In their new country, they succeeded in preserving, with

their independence, their distinct manners, customs, and institutions; and long after the marriage of the daughter of their prince, Anne of Bretagne, in 1499, to Louis XII, brought about the union of this state to France, its local parliament made persevering and successful struggles against its administrative assimilation to the rest of the kingdom.

The coasts of both the north and south of Brittany exhibit rich harvests. It is here that they gather grain of every description, wheat, barley, oats, buckwheat,* flax (above all, that of Becherel and of Leon, which excels that of Riga, it is said, in the proportion of 66 to 61 livres per quintal, of the first quality†), and likewise hemp (in the environs of Tréguier and the Basse Loire), of which the workshops of Brest have consumed sometimes 3,000,000 in the year‡. This description holds good for the border of land approaching the sea, and for the environs of Rennes and of Nantes; but it is equally true that the interior of Britanny from Ploermel to Faouet, and to Gourin and Carhaix, that all the country inclosed by the Montagnes Noires and the Montagnes d'Arès, excepting the vicinity of the towns, is as ill-cultivated and therefore as sterile as it is possible to conceive. In speaking of Breton cultivation, it is necessary carefully to distinguish therefore between that of the borders and that of the interior of the country. In the former, it is intelligent, advanced and productive; in the latter, it is ignorant, prejudiced, and unproductive.

In travelling through Brittany, one is especially struck by the continual inequality of the surface, the multiplicity of inclosures by which it is divided, and by its enormous proportion of heaths. Out of 3,388,843 hectares, these occupy 976,000, or more than a quarter§; while in all France, the proportion is only one-sixth, or 9,191,076, out of 52,769,000 hectares. In some localities, they form more than one-half of the whole surface; indeed, in the two entire departments of Finistère and Morbihan, there are more heaths than cultivable land. The soil itself, therefore, is not everywhere the same. Bordering on the sea, and in the vicinities of Dol, St. Malo, Dinan, St. Brieuc, Tréguier, Morlaix, and Roscoff, the land, strengthened by abundant manure, is adapted to every kind of culture; but, advancing into the interior of the country, its aspect soon changes. Mountains here present themselves, separated only by narrow valleys, watered by numerous little streams, to the banks of which all habitation and all cultivation are confined; nevertheless, the eye can discern neither the one nor the other. We may be in the midst of one of the most populous of the ancient provinces of France, and not perceive a village, a hamlet, or even a single farm. This is because on every side arise banks about six or seven feet high, and sometimes more, and nearly as broad as they are high, absolute ramparts of earth or dry stone, along the bottom of which runs a ditch, and the summit of which is crowned sometimes with a coppice of prickly wood, sometimes with one or two rows of trees, commonly oak, which it is customary to crop at the

* Its culture does not date from an earlier period than the middle of the sixteenth century.

† M. de Kerdanel.

‡ Ibid.

§ Previous to the Revolution it appears to have been, instead of $\frac{29}{100}$ as at present, no less than $\frac{42}{100}$.—"Ogée, Dictionnaire de Bretagne."

height of a few metres. Between such banks, under the thick foliage which grows over them from one to another, and which the rays of the sun sometimes cannot penetrate, run the hollow, narrow, and crooked tracks, for the most part impracticable in winter, which form the local roads (chemins vicinaux) of the country. These inclosures, with which each property is carefully surrounded, however small its extent, are so multitudinous, the trees growing upon them so wide-spreading, that, labouring under an illusion which he tries in vain to dispel, the traveller conceives himself to be constantly in the midst of a thick forest. But as the road rises, and he attains an acclivity, this mass of trees gradually appears to become less dense, and resolves itself into innumerable compartments, which gives to the whole cultivable tract the appearance of a vast chequer-board; and at length he discovers everywhere numerous habitations, which the flatness of the country below, and the thickness of the banks and hedges, had concealed from his view. He finds the interior of the country generally, therefore, to consist either of innumerable inclosures, which fatigue by their monotony, or rude heaths, that convey only a sense of gloom.

The sources of the reputed poverty and backwardness of the province being apparently the especial object of the present inquiry, MM. Chateauneuf and Villermé proceeded to collect every available statistical evidence concerning the whole province and each of its departments; but the especial attention of these gentlemen, it is obvious, was therefore given to the poorest and most backward departments, those of Finistère, Morbihan, and Côtes-du-Nord, to which alone some of their details will apply in full force.

Table of the Cultivation of Brittany, as compared with that of all France, abstracted from the Official Statistics of Agriculture.

	Brittany.		France.	
	Hectares.	Proportion.	Hectares.	Proportion.
Total Surface	3,388,843	....	52,768,600	....
Wheat	269,888	$\frac{1}{13}$ to $\frac{1}{12}$	5,586,787	$\frac{1}{9}$
Other Grain	491,010	$\frac{1}{7}$	8,313,475	$\frac{1}{6}$
Buckwheat	272,541	$\frac{1}{12}$	651,242	$\frac{1}{81}$
Potatoes	65,069	$\frac{1}{52}$	921,971	$\frac{1}{59}$
Hemp and Flax	34,917	$\frac{1}{100}$	274,389	$\frac{1}{200}$
Orchards, Nurseries, and Osier Beds	56,904	$\frac{1}{59}$	766,578	$\frac{1}{68}$
Gardens and land under various vegetables, Colewort, Turnips, Beet-root, Tobacco, &c.	38,742	$\frac{1}{87}$	896,747	$\frac{1}{59}$
Vines	27,728	$\frac{1}{125}$	1,972,340	$\frac{1}{27}$
Natural Meadows	301,861	$\frac{1}{11}$	4,198,198	$\frac{1}{13}$
Artificial Meadows	50,880	$\frac{1}{67}$	1,576,567	$\frac{1}{33}$
Woods and Forests	200,154	$\frac{1}{17}$	8,804,551	$\frac{1}{6}$
Fallows	429,053	$\frac{1}{8}$	6,763,281	$\frac{1}{8}$
Pasturages, Commons, and Heaths	976,034	$\frac{1}{4}$ to $\frac{1}{3}$	9,191,076	$\frac{1}{6}$
Total Surface	3,388,843	....	52,768,600	....
Excluding Roads, Rivers, &c.	3,214,781	....	49,917,202	....

The wood and fuel produced in Brittany are much greater than in the proportion above given of its woods and forests; for in addition to their produce, has to be added the trees and brushwood which grows on the banks which separate every field and property.

The first glance at this table shows that in Brittany there is cultivated proportionally less of wheat than of any other corn crop, and less of colewort, beet root, and culinary vegetables, than in France generally; but also much more than in France generally of buckwheat, oats, and flax; while artificial meadows are more rare, together with woods and forests; at the same time that the heaths, wastes, commons, and pastures, are far more extended. The natural meadows, the orchards, and the growth of potatoes, are nearly equal in France and in Brittany. Unhappily, the proportion of fallows is the same, which merely shows that the backwardness of Brittany in this respect is equalled by that of all France. The difference with regard to the vine results merely from climate. Relatively to the total extent of territory, the extent of the pasturage is greater in Brittany, on account of the wastes, than in France generally; while, on the other hand, its cultivated surface is less. These statements will be rendered yet clearer by dividing the territory of Brittany and of France respectively into 1000 parts, and appropriating these according to the several kinds of culture in each, as follows :—

	Brittany.	France.
Total Parts	1,000	1,000
Wheat	80	106
Other Grain	145	158
Buckwheat	81	12
Potatoes	19	18
Hemp and Flax	10	5
Orchards, Nurseries, Osier Beds, &c.	17	15
Gardens, Vegetable Beds, Colewort, Turnips, Beet-root, Tobacco, &c.	11	17
Vines	8	37
Natural Meadows	89	80
Artificial Meadows	15	30
Woods and Forests	59	167
Fallows	127	128
Pasturages, Commons, Heaths, and Wastes	288	174
Total Parts	1,000	1,000

Nothing can be more desirable than to convert all the latter into productive land; but it is a work which demands money, hands, instruments, animals, in fine, means of every kind; and where are these to be found in a country where a farm of seven or eight hundred francs is very difficult to find, and one of fifteen hundred nowhere exists; where the quality of the soil is so unequal that the rent of one hectare varies from fourteen francs to three hundred and three hundred and forty francs; and where property is so divided that there are no fewer than 93,000 parcels in two communes only of one arron-

dissement, giving nearly five parcels per hectare, or less than half an acre to each? These are undoubtedly great difficulties, and there exist yet greater.

One of these is the disinclination of the people generally to the inclosure of the wastes, their customary use of which was distinctly recognized as a common property at the period of the revolution. The great quantity of common property in Brittany (state our authors) is undoubtedly an evil, and we are making no endeavour to conceal it; but would not their inclosure be a greater, and does not the opposition of the communes arise from a sort of instinct which seems to warn them that this measure, though advantageous to the poor, to whom it would give at the moment some degree of ease, would in the end deprive some of a very valuable resource? The revolution in 1793 gave an example of the division of the communal properties, and it is an opinion not without credit, that in the parishes in which it took place, it is now more difficult than ever to give any help to the poor families, for which this resource no longer exists; while they yet find in those communes which have preserved their properties a little wood to warm themselves, some pasturage for their beasts, and some spots of land on which to cultivate rye, potatoes, and cabbages.

After showing that petty inclosures on the borders of the wastes are useless, without more capital, energy, and intelligence, than is shown by the present race of cultivators, who, if they possessed a larger share of those means, ought first to show the advantage of their employment on the land which they already hold, to give any hope of their doing other than merely exhaust a poor natural soil, and leave it, with a loss, to its original sterility, the reporters proceed to say, that the clearings should not therefore be left to the small cultivators, who possess no means of undertaking them, but might be the work of large associations; and such indeed is stated to have been the view of M. Casimir Perier, who proposed to employ in this work labourers from Scotland, and especially from Ireland, to supply the hands which the Breton population might not furnish him.

Private proprietors might undertake the work, but it is one which requires fortune enough to execute it; and too often, in Brittany, the proprietor of the land has scarcely any more money than the farmer who rents it; and the farmer, for his part, is unacquainted with anything but an invincible resistance to all amelioration and all progress; to an extreme indolence, he adds a blind routine; his instruments are good for nothing; he is determined to keep them; his methods are absurd; he obstinately resolves to change nothing. Only imagine a plough, the cone-shaped share of which terminates in a long point, which pierces instead of cutting the soil, and a shelboard made of a plank standing straight up, and neither turning over the soil nor otherwise properly disposing of it, the clumsy construction of which renders every motion difficult, and requires too many hands to manage and too many horses to draw it; not even permitting the tracing a straight line across a field. Such is the plough of the Breton husbandman; but this plough is the plough of his father, of his ancestors, and all the advice and exhortation in the world will not induce him to change it. Persuaded that the land cannot always be producing, he sows for the first year buckwheat, the second wheat,

the third barley or oats, or often wheat again, of which he thus takes two crops in succession, and then he leaves it bare, except of self-sown weeds, for three, four, and five years, and often much longer, replying to every argument in favour of green crops, with all the pertinacity of conviction, that the land requires rest as well as the arms that cultivate it. Thus the want of manure diminishes the produce; the want of produce permits him to keep only a few animals on so little forage; few animals, again, yield little manure, and little manure gives little produce; a deplorable circle in which the Breton is completely bound up by ignorance and routine, and so many more in France with him.

But it is mere self-deception to expect from a poor country like this a general effort in the way of progress; its people are too inert and too miserable. To spend, it is necessary to have; and the poorer classes possess nothing but a sense of their discomfort, without the means of deliverance from it. Their prosperity, like their ruin, must come from above; and it is for this reason that no great amelioration, no notable change, can be wrought in Brittany, except by the rich proprietors, and that we should wish to see them helping their farmers, and encouraging them by advances to attempt new methods.

These are the words of our authors; but they have already made us aware, in general terms, to what an extent the higher class has been extinguished by the excessive subdivision of landed property in Brittany. Their suggestion, therefore, would be of more practical value addressed to the more ill-cultivated parts of our own country than to that for which it was designed. A wise providence should suggest to the proprietors in such districts, that it becomes them to cultivate good farmers as much as it behoves the farmer to cultivate well the land which he holds; and could a whole class be imbued with this sentiment, some temporary gratifications would willingly be sacrificed to place upon a sounder footing the economical condition of their own estates, as well as the social condition of the people in their several neighbourhoods. To adopt the processes next within his means, the profit of which has already been proved by the experiments of the more wealthy and instructed cultivator, is all that can be expected from the poor peasant farmer; and how much has to be done in every neighbourhood in extending the range of practical experience, in making known its results, in setting good examples of their adoption, and in overcoming, by education and kindly intercourse, the prejudices which oppose them, needs no elaborate investigation. It is enough to occupy more than all the leisure hours of those who feel themselves in want of an interesting and beneficent occupation, consistent with a position of superior fortune; nor will it be unrewarded in either the direct produce of the soil, the comfort of the neighbourhood, or the ultimate value of an estate, upon which, after all, the greatest elements of production are the intelligence, energy, and capital of the employer, which here, no more than in Brittany, can be in gross defect, without equally reducing the produce of the soil to a minimum, while a pauper population, or one not half employed, multiplies on its surface, with no sense of enjoyment but in listless idleness or fitful excitement.

The example of Brittany shows that the mere subdivision of landed property is no cure for the evils of a miserable culture or a miserable people. Our authors express a strong opinion, that to effect any such

improvement, there must exist a superior class, having the means and opportunities of exercising a wise providence and a superior judgment. We know of instances enough in which such opportunities, through one mistaken sentiment or another, are abused, and of as many neglected warnings of the consequences, without going abroad for them. That mere tricks of tenure, however, do not contain the panacea, Brittany can afford us one other example, in the fact that "tenant right" is almost universal throughout it, without producing the desired effects.

With the exception of some portions of land at the gates of the towns and châteaux, either rented or let for half produce (*à moitié*), one only form of lease was and is still everywhere in use, viz., that which is designated the terminable lease (*bail congéable*), or lease at convenience (*bail convenant*). This is a lease of the land, generally for nine years, for a rent payable partly in money and partly in produce, with a condition that the proprietor, at the expiration of the term, shall pay for ameliorations which may have been made, valued at the expense of the proprietor. This form of lease exists nowhere else in France, and its operation is still a subject of much controversy. Tenants under it are seldom changed; but besides the mutual liberty to terminate it at the expiration of any three years, there is a growing tendency to shorten the term of leases altogether.

The sheep, both in flesh and wool, are among the worst in existence, and the cattle of the interior are equally wretched, having no virtue but extreme hardiness, to enable them to subsist, however wretchedly, on their poor and scanty fare. It appears from the great number weighed at the abattoir of Quimper, that the net weight of the carcase of an ox varies there from 50 to 260 kilogrammes; of a cow, from 40 to 100; and of a sheep, from 10 to 18*. The great difference between the wretched cattle of the far west and those found in the neighbourhood of St. Pol and Morlaix (say the reporters) justifies no presumption of a difference of breed, because the oxen and cows belonging to the curés, in whatever part of the country, are always fine. The horses, like the oxen, are found to be better in the same eastern regions of better pasture; and here is a great breeding of little, active, punchy, entire horses, chiefly for the diligence and artillery services, and some even for the cavalry, which have a deserved reputation for their activity and bottom. The number annually sent out of the country, chiefly as colts, is variously estimated at ten, twelve, or even fifteen thousand per annum. The feeding of pigs in the Côtes-du-Nord, chiefly for the provisioning of the navy and those portions of the army in foreign service, is carried on very extensively. The chief export of horned cattle is to Guernsey and Jersey. The number of sheep in the country is not stated; that of cattle is given at only 334,000, although the number in 1812 was nearly 1,000,000. The same authority—the official statistics of agriculture—gives the number of hogs at 366,000, but the reporters believe it to be much larger.

All the valuable produce of the country is raised by its population for others, and not for themselves. Not only the greater part of the flesh meat, but nearly the whole of the wheat, is exported;

* The kilogramme is a little more than 2½ English pounds, (2·606); 17 to 28 kilogrammes is the weight of the sheep in gross.

being the principal means of bringing some money into the country. The buckwheat, the potatoes, and some of the oats and barley, form the food of the inhabitants. In fine, man, the animals, and the land, all want amelioration in Brittany from their present lamentable condition; and yet Brittany is not more in arrear of the rest of France, than France generally is behind the best cultivated parts of Europe. The yield of wheat is stated by these writers at 11 hectolitres per hectare, and in Belgium, England, and several countries of Germany, from 22 to 23 hectolitres, or at least double. Fallow and bare land left to the weeds occupy in France one-third of the entire arable surface, while in those countries it occupies only one-eighth. Again, on any given space, the inhabitants in these better cultivated countries have three or even four times more cattle than the French. The former allow them to live only four years, and the latter eight, as beasts of draught. The former, therefore, can take into consumption six or eight times more than the latter, at the same time that the cattle of the former cost them much less in keep, on produce obtained in a second crop off the corn lands, than those of the latter, grazed at great cost on high-priced natural meadows.

The commercial industry of Brittany is almost wholly in agricultural produce, in grain, hemp, flax, cattle, horses, and less important articles, such as honey, bees' wax, and butter. Abundance of salt is gathered on a part of its shores, near the mouth of the Loire. In the bay of Cancale is an oyster fishery, the produce of which has great reputation and a large sale; and in the bays of Douarnenez and Concarneau, pilchards are taken in prodigious quantities; some forty millions per annum. Every year a certain number of ships are equipped and sent to the bank and coasts of Newfoundland from the ports of St. Brieuc, Binič, Portrieux, Paimpol, St. Malo, and even Nantes. Finally, with the flax and hemp grown within the province, are made both fine and coarse cloths, which command a considerable sale. This trade was formerly larger, but an obstinate adherence to old instruments and methods, and a positive rejection of better, has gradually reduced both spinners and weavers to the most abject misery, in competition with the improved processes and growing combinations of capital and machinery in the world around them.

According to M. Frederic Rouxel, one of the best informed persons engaged in this branch of industry, the 4,483 days' labour into which the annual cultivation of an hectare of flax or hemp may, in the department of the Côtes-du-Nord, be divided, and the wages earned in them, might thus be distributed in the year 1838:—

Processes.	Days.	Francs.	Francs.
Agriculture	296	men and horses, at 0,75 =	221,00
Conversion of the Flax or Hemp into a state fit for Spinning	700	men and women, at 0,40 =	280,00
Spinning at 0,09c. per 1000 metres of thread	2,666	women ... at 0,22 =	599,85
Weaving: Winding, Warping, &c.	164	women ... at 0,50 =	82,00
Weaving: Quill Winding	143	children ... at 0,29 =	41,47
Weaving: Weaving, properly so called	287	men ... at 1,00 =	287,00
Bleaching	90	men ... at 0,75 =	67,50
Getting up and dispatching	137	men ... at 0,75 =	102,75
Total	4,483	...	1681,57

To these charges, which do not include the days' work of women and children, given to weeding the flax from the time it is four or five inches above the ground, because the hemp commonly is not weeded at all, M. Rouxel adds the following :—

Charges—brought forward		1,681,57	francs.
Rent of a hectare of land fit for the cultivation of flax or hemp	100 f.		
Half the price of the seed, that which is gathered being worth the other half	57	326,00	,,
Profit of the cultivator or farmer	169		
Fuel and ashes for the bleaching		35,00	,,
Total value of a manufactured crop of flax or hemp from one hectare		2,042,57	,,

Thus mere cultivation costs 27 per cent. of the whole value; preparatory processes, also usually performed by the farmer, 14; spinning 29, weaving 20, bleaching 5, and getting up and dispatching 5.

Hence it appears that each hectare of flax or hemp, if the whole were manufactured in the country, would represent 2,040 francs of income, of which 1,680, or four-fifths, are distributed in wages to poor families, whether to ordinary day-labourers, or to others for filling up their spare hours with the lighter occupations. According to M. Rouxel, these wages would be divided among 20 persons, of each sex and various ages, on the supposition that each worked 224 days in the year, or among only 15 if they worked 300 days.

If we multiply this 1,680 francs of wages by the 34,900 hectares of flax and hemp found in the five departments of Brittany, according to the official statistics, we have a sum of 58,600,000 francs, annually dispensed by this branch of labour in the whole province; and that it employs, at 25 to 20 persons the acre, about 600,000 hands (520,000 at the least) at the rate of nearly 100 francs per annum for each (97,65). Yet further, as this is a business which cannot be conducted without some capital, the localities in which flax and hemp are most grown (not those in which it is spun and woven,) are always better cultivated and richer in appearance than the others. It must be borne in mind, however, that all the flax and hemp grown in the country is not manufactured in it, and that all its workpeople are not in the constant employment which the above calculations suppose, but, on the contrary, that this employment is dispersed amongst an inordinate excess of hands, existing, especially the spinners and weavers, in the greatest misery.

Under flax there are 20,357 hectares; under hemp 14,560; making a total of 34,917; and the average produce of each hectare of flax after the removal of the rind, is from 2000 to 2500 kilogrammes of dry stalks. With the longest and coarsest hemp are made cordage for the marine; with the finer qualities, sail cloths, especially at Rennes, Landerneau, Fougères, and Dinan. With hemp and flax united are made table linen, of which some part is sent into the interior of France. Other of the coarse cloths of this province go to clothe the marine and the country people, and furnish the hospitals and barracks. The earnings of the spinners and weavers, when in full employment, have already been stated at their full average. Among the weavers it is only the

sail-cloth makers whose daily wages are so much as 1 fr. 25 c., and sometimes even 1 fr. 50 c. For the rest it is from 90 c. to 1 fr., which certain little expenses which they have to bear reduce to 60 or 65 cents, about 6*d.* per day, when in full work. At the price to which the first necessities have risen, even in Brittany (state the present reporters,) and above all, salt and tobacco, wages so low are not the reward of labour, but mere alms. All the weavers with whom we have spoken state that they can no longer live by their trades, and their obvious misery bore witness to their truthfulness; and yet, when one knows that most of them spend 12 francs a-year, and some even double that sum, in tobacco, it is painful to think how many privations this one luxury costs them.

There is likewise a dwindling woollen manufacture at Vitré, Fougères, Josselyn, Malestroit, and Ploermel, carried on by a few poor manufacturers; but all the wool is carded and spun by hand; all the looms are such as were made a hundred years ago, and the workmen to whom they belong are completely ignorant, obstinate in their hereditary routine, without capital, without means of getting it, who are constantly complaining of their condition, and will do nothing to amend it. The tanning of leather, however, has of late years been an increasing and prosperous trade in this province, carried on with skill and energy, and giving a new value to its woods.

What trade there is in the country is almost entirely on the coasts. Advancing into the interior it is rapidly lost; and every statistical evidence contributes to make more obvious its general weakness. The average number of persons patented for trades and professions in the eighty-four departments of France, exclusive of Paris and Corsica, is 14,160, and the sums paid by them 291,750 francs. In the five departments of Brittany they are as follows:—

Departments.	No. Taxed.	Payment in Francs.
Côtes-du-Nord	10,350	150,987
Finistère	10,611	237,769
Ille-et-Vilaine	13,078	235,509
Loire-Inférieure	13,503	479,387
Morbihan	9,625	166,975
Mean of the above Five Departments	11,433	254,325

The average amount paid by each department of France on the transport of merchandise by public carriages is 46,550 fr. But in the department of the Côtes-du-Nord it is only 10,619 fr., Finistère 22,833 fr., and Morbihan 17,884 fr.; while in Ille-et-Vilaine it rises to 52,495 fr., and in Loire-Inférieure to 112,689 fr., owing to the large towns in them, through which runs a current of national industry. The payments for postage are, in like manner, inferior to the general average of France, notwithstanding the great seaports; the average for each department of the kingdom being 292,750 fr., while that for the five Breton departments is only 274,360 fr., while the department of Côtes du Nord pays only 176,311 fr., and that of Morbihan 168,714 fr.

The population of Brittany is stated at different recent periods to have been as follows:—

In 1700	1,655,000	In 1826	2,522,500
,, 1784	2,276,000	,, 1831	2,574,000
,, 1800	2,202,700	,, 1836	2,620,800
,, 1821	2,418,800	,, 1841	2,666,200

This is exclusive of the fluctuating population; and although implicit faith is not to be placed in the recent censuses, yet we are constrained to believe that the population of Brittany has not quite kept pace with the general increase which has been observed in France since the commencement of the present century. The increase which has taken place has been chiefly in the towns. From 1801 to 1836, a term of thirty-five years, the increase was as follows (that of all France being 22 per cent., from 27,349,003 to 33,549,910):—

Departments.	Population.		Increase per Cent.
	1801.	1836.	
Loire-Inférieure	369,305	470,768	30
Finistère	439,046	546,955	25
Ille-et-Vilaine	488,846	547,249	22
Côtes-du-Nord	504,303	605,563	20
Morbihan	401,215	449,743	12
Total	2,202,715	2,620,279	19

The increase in England and Wales is about $1\frac{1}{2}$ per cent. per annum. Nantes, Brest, and other of the towns have occasioned the great increase in some of the departments. That which has made least progress in population is the one which is the most remote, and the most backward in every respect.

Notwithstanding the enormous extent of waste lands, the inferior cultivation of the rest, and the unprosperous industry of the country generally, however, every department has a population in proportion to its surface greater than the average of all France, and in some departments about one-third greater. The average number of inhabitants to each square league, according to the census of 1836, was, in all France, 1,256; in all Brittany, 1,528; in the department of Côtes-du-Nord, 1,781; Finistère, 1,623; Ille-et-Vilaine, 1,618; Loire-Inférieure, 1,364; Morbihan, 1,270. It is not merely on the coasts, where the country is comparatively rich and provisions abundant, that this large proportion of the population to the surface is found; it exists also in the centre of Brittany, in that centre so bare and so gloomy to contemplate. The maritime arrondissements have 1,708 inhabitants per square league, and those of the interior 1,287, which, though less, is superior to the average of all France. This fact existed before the revolution, when supposing, with M. Necker, that the population of Brittany was 2,276,000 inhabitants, this would give 1,327 inhabitants per square league, when the average of all France was only 940, if its population be taken at 25,000,000, or 1,053 if taken at the higher estimate of 28,000,000, as some writers contend that it ought to be. The following shows the distribution of the population by departments in 1836:

Departments.	Square Leagues.	Hectares.	Males.	Females.	Total.
Côtes-du-Nord	340·25	672,096	291,500	314,100	605,600
Finistère	337·51	666,705	269,400	277,600	547,000
Ille-et-Vilaine	338·52	668,697	260,300	286,900	547,200
Loire-Inférieure	345·11	681,704	225,700	245,000	470,700
Morbihan	354·19	699,641	216,800	232,900	449,700
Total	1715·58	3,388,843	1,263,700	1,356,500	2,620,200

This population was distributed among 1,439 communes, containing 540,000 houses; a number giving about 1,821 inhabitants to each commune, and 5 to each house. Six-sevenths of the whole population, however, lies in communes, 1,241 in number, which have less than 3000 inhabitants, and whose joint population is 1,617,300 inhabitants, so scattered over the surface of the country that in all the five departments there are only 50 communes which have in them a place containing villages or towns of 1,500 inhabitants or more. There is nothing like this in any other department of France.

Of the total number of 540,000 houses, no fewer than 400,000 have only two or three openings, that is, one or two besides the door. More than two-thirds of the population are dispersed through the fields, the remaining third occupies the towns, of which few have more than five or six thousand inhabitants. Two have more than 10,000 (Vannes and St. Brieux), one contains 19,000 (Lorient), another 30,000 (Brest), a third 35,000 (Rennes), and one has no fewer than 75,000 (Nantes).

In the course of fifteen years, from 1820 to 1835 inclusive, there have been recorded in Brittany 1,267,140 births, 1,094,350 deaths, and 289,890 marriages; or, on the average of each year, 83,809 births, 72,956 deaths, and 19,326 marriages. Dividing this time into three periods, the results are as follows :—

	1821-26.	1826-31.	1831-36.
Mean Population	2,470,640	2,548,230	2,597,100
One birth to	29·86	30·24	30·68
One death to	38·08	33·12	33·68
One marriage to.....	133·00	130·80	130·00

In France generally, at the same periods, the results were—

	1821-26.	1826-31.	1831-36.
Mean Population	31,160,400	32,214,080	33,055,060
One birth to	32·06	32·98	33·90
One death to	40·72	39·50	38·60
One marriage to.....	129·00	126·00	127·00

Thus the deaths only present an *increase* which is not paralleled in France generally; but the succession of generations appears by every indication to be positively most rapid in Brittany. The proportion of births to each marriage, however, is seen to be 4·19 in Brittany, while

it is only 3·59 in the rest of the kingdom. In Finistère the number rises to 4·26, in Côtes-du-Nord to 4·43, and in Morbihan to 4·51; but it descends in the region of the large towns, to 3·99 in Ille-et-Vilaine, and 3·72 in Loire-Inférieure, the manners of the country being here scarcely Breton. The number of illegitimate children in Britanny has averaged, during the 15 years, 2,782 per annum, or 1 to 30·12 of the total number of births, while in France generally it is 1 to 13·81. The maximum of births, deaths, and marriages to the population falls in Finistère, and the maximum of children to each marriage in Morbihan. In Finistère the births are 1 to 26·57 of the population annually, the deaths 1 to 31·866, and the marriages 1 to 116·9. This is one of the most Breton of all the departments of Britanny, and the results which it offers are very remarkable.

From inquiries in a number of purely agricultural villages in the departments of Lower Brittany, it appeared from the evidence of 6,424 marriages, that the average of first marriages for the men is 28 years and 4 months, and for the women 25 years and 11 months. Although there are few cases of young girls marrying under 21, the contrary is the case with the youths, owing, probably, to the laws of conscription, which would take them away at 20 years of age. Another unforeseen result from these inquiries was, the number of cases in which there was a great disproportion of age between the married, the woman being often 35, 40, or 45, while the husband was yet scarcely 30; for which difference the usual grosser motives were assigned.

From the well-known works of MM. Mallet, Villermé, and Giulio, and the census of England and Wales, a memorandum is then added of the ages of marriages in the following localities, for the purposes of comparison.

Localities.	Ages of Marriage.			
	Men.		Women.	
	Yrs	Mths.	Yrs.	Mths.
Geneva, first marriages	29	0	26	10
Paris, do., during the last century	29	8	24	9
Lodève, do., working classes	26	1	24	2
Amiens, do., do.	26	3	25	3
Mulhouse, do., do.	28	5	26	10
St. Marie aux Mines, first and second marriages, working classes	27	0	25	6
Tarare, do., do.	30	9	27	6
Canton de Vaud, do., whole Population	30	9	27	7
England and Wales, do., do.	27	3	25	3
Continental Sardinia, do., do.	29	0	24	0

In all the latter cases the first and second marriages are undistinguished, and in most of the others the basis of observations is too limited; but these were the best indications available, although I now know of none, as regards the progress of population among the lower classes of the English town population, to compare with the results relating to a part of London, contained in a Report to the Statistical Society of London, printed in the eleventh volume of its Transactions, p. 222.

The Breton peasant holds to his hamlet, to the place of his birth, and, above all, to its notions, which, with him, lose nothing of their empire. The teeming population furnish numerous soldiers to the army and mariners to the fleet, the fatigues of which they support very well, but they are twitted on the shortness of their stature, which is said scarcely to exceed five feet (the French foot exceeding the English by about half an inch), although it varies from village to village, and is higher near the coast than in the interior. It is rendered quite certain by the records of the recruiting service that the mean stature of the Breton in military service is less than that of Frenchmen generally by about eleven millimetres, (or half an inch,) being 1 metre and 643 millimetres against 1 metre and 654 millimetres 5 lignes. The number of rejections for insufficiency of stature is also in considerable excess, especially in the most Breton department of Finistère. The Breton, then, is certainly small of stature, and yet taller men are found scattered everywhere, but especially on the coasts, whence, however, they are taken from the records of the army by the marine conscription. The Bretons are hardy and obedient; for while, from 1825 to 1838, out of every 1,000 recruits 667, on the average, have had exemptions on account of ill health, the proportion among the Bretons was only 375; and again, while the average number of those who prove refractory to the conscription is, on the average, 104 or 105 for each department, the number of Bretons is only 72.

The total of the taxation paid by the five departments of Brittany in the year 1841 was as follows :—

Direct Taxes.

Charges.	Francs.
Land Tax	13,535,674
Personelle	3,389,556
Doors and Windows	1,319,076
Patents	1,662,528
Premier Avertissement	42,245
Registry	7,364,563
Greffe	126,274
Mortgages	52,852
Stamps	1,216,491
Domains	216,036
Fines and other profits	260,122
Total	29,185,085

Indirect Taxes.

Duties on Wine, Cider, and Perry	6,477,028
Duty on Beer	62,336
Tobacco	10,594,412
Transport by public conveyance	267,928
Salt	10,127,404
Post Office	1,613,770
Tithe of the Octrois	322,776
Powder	258,236
Universitaires	145,109
Other Miscellaneous Profits, from Customs, Fisheries, &c.	11,761,395
Total	41,680,584
Grand Total	70,825,769

This gives an average of about 26½ francs, or 1*l.* 1*s.* per head per annum in comparison with about 2*l.* per head per annum borne by the inhabitants of the British Islands; and relatively to their means, the former is a far heavier burthen.

The proportion of the above total paid by each of the five departments is as follows:—

Departments.	Francs.
Côtes-du-Nord	10,571,127
Finistère	12,826,698
Ille-et-Vilaine	12,902,313
Loire-Inférieure	25,570,912
Morbihan	8,944,719
Total	70,815,769*

Thus poor and thus burthened, what, ask our authorities, are the superior advantages in his native country which so strongly attach the Breton to it; for his lot is too often poverty and misery—and that misery extreme? It was expressly noticed by Necker in 1784, and sixty years later we now equally find it. There is a commune in Brittany, for instance, where it is reckoned that there are six thousand beggars out of eight thousand inhabitants, and in the town of Vitré, with eight thousand inhabitants, scarcely six thousand have any means of subsistence†.

To form any idea of his destitution, one must enter into the abode of a Breton peasant of the poorest class, into his crumbling hut, whose roof descends to the ground, its interior blackened by the continual smoke of the heath and rushes, the only fuel of his hearth. It is in this miserable hut, into which the light penetrates only through the door, and is extinguished the moment that it is shut, that he and his family live, half naked, possessing for their entire furniture only a bad table, a bench, an iron pot, and a few wooden and earthen utensils, with no bed but a sort of box, where he sleeps, without bed-clothing, on a mattrass stuffed with oaten chaff instead of wool, while in another corner of this melancholy habitation lies, on a little litter, the lean and sorry cow, (lucky indeed if he possess one,) which supports his children and himself with its milk‡. Such is his condition, and he accepts it without murmuring against Providence or envying his richer neighbour. It is even touching to hear him say, "My parents were wretched, and I am like them—it is our condition to be poor." His resignation is so entire, so complete, that the calm of his features and the serenity of his expression is untouched, and makes one almost doubt whether he would consent to change his black bread and oaten porridge for bread less coarse and more palatable food even if it were offered him. "He neither runs after fortune nor waits upon her. This is the only popular superstition from which he is exempt. The black bread of every day, the drunkenness of the Sunday, and a straw bed on which to die about sixty years

* Compte definitif des recettes, 1841, pp. 38, 84, 139, 198, 199, 244, 271.

† Procès-Verbal des Deliberations du Conseil-Général des Côtes-du-Nord, pour 1840, p. 115.

‡ In many cabins this animal is separated from the rest by a partition, with an opening in it, through which it feeds out of a trough, its head being thus in the chamber while its body is in the stable.

of age—this is his existence and his future, and he accepts it as definitive. He thus treats his misery as an hereditary and incurable malady*."

Beside him, his neighbour, better off, if Heaven grant abundance to his fields, *i. e.* of the buckwheat on which he lives, and of the apples from which he makes his favourite drink, is content with his lot, and desires no better. Flesh meat once or twice a week, articles of furniture a little less broken, woollen instead of linen clothing, shoes instead of sabots, are the only difference between them.

This identity in all his habits, of the Breton of the present day with the Breton of all antiquity, appears to arise from the nature of the soil, the sea which surrounds him, the mountains which separate him from the neighbouring populations and leave but few passages by which he can be approached, but above all, from the language, which he comprehends, but which nobody else does, and which, therefore, prevents all intercourse with him, at the same time that he uses it as a sort of touchstone by which to tell who it is that approaches him. When he does not hear it from your mouth, you are to him a foreigner. "This is not one of our people," says he to himself, and he immediately becomes fearful and suspicious; he shrinks, he is reserved—he even withdraws altogether. But speak his darling idiom, he greets you, he does anything to oblige you that he can. Strange destiny, which has determined that in both the countries which it has given to him, in France as in England, the Breton should remain separate from all other people.

Isolation preserves manners, character, and institutions, but it also cherishes ignorance. Under the Republic there were, in all the department of the Côtes-du-Nord, scarcely fifteen elementary schools; and the number appears to have remained nearly unaltered during the Empire and under the Restoration, if we may rely on the Annuaire of the Department for 1836. The sacristans, beadles, and good sisters were the sole teachers of the country population. It is not, therefore, without reason that M. le Baron Charles Dupin, endeavouring twenty years ago, to indicate upon a map of France, by different shades the different degrees of instruction prevailing among the people of different districts, spread over a part of Britanny his darkest tints; or that M. Guerny, reproducing the same map some time afterwards, reckoned only 1 scholar for every 96 inhabitants in the arrondissement of the Academy of Rennes, while the proportion was 1 in 11 in those of the Academies of Amiens, Besançon, and Nancy.

By the criminal justice returns, published annually by that department of the government, one is induced to believe that instruction has made no progress in Britanny since the date of the works now cited; for, according to them, in the five years 1836-40, of 5,035 tried before the court of assizes of the five departments of Brittany, 2,375, or 78 per cent., knew nothing of either writing or reading†; and in his reports to the King, the Minister of Justice states, that four of these, viz., Côtes-du-Nord, Finistère, Morbihan, and Ille-et-Vilaine, are among the number of the six departments of France in which four-

* M. Emile Souvestre, himself a Breton, Revue des deux Mondes, 4e serie, t. iv., p. 403, 1835.

† p. 25.

fifths and more of the accused are unable either to read or write*. Nevertheless, we are bound to add, that since the law of 1833, the primary schools are become more numerous in Britanny, and that some progress of instruction in the rural districts has been the consequence; thanks, above all, to the contest recently raised between these schools and those conducted by the "Frères de la Doctrine," as well as the disciples of M. Joseph Lamennais, known by the name of "Petits Frères." It is easy to understand that among a people in whose eyes the ecclesiastical character has lost none of its influence, this contest is not always likely to terminate in favour of the masters derived from the Normal Schools; and the preference for the "Frères des Ecoles Chrétiennes" would have been yet more marked, if, like those of M. de Lamennais, each of them had been able to establish himself singly in a commune; but their statutes, which require that there shall never be less than three of them to conduct the same school, impose a burden too heavy for the numerous villages too poor to support them.

The Breton, ignorant and simple, is therefore superstitious; he believes in fairies, in black and shaggy demon dwarfs, who delight only in doing mischief, in sorcerers, and ghosts. It is in the evening watches that frightful stories concerning these are usually retailed, narrators as well as listeners trembling at the recital. They are found equally on the coasts and in the interior, and each canton, each village, has its own. Some glimpse of a purer light offers at the close of the week, an equally characteristic spectacle. In the villages, on Sundays, as well as on feast days, when the bell rings for mass, out pours a long procession of inhabitants, wending towards the church; almost invariably its dimensions are too small for so great a crowd; part remain outside; motionless, kneeling on the earth, a chaplet in hand, the men on one side, the women on the other, all pray in profound abstraction. Here surely is a true piety and a sincere faith.

In his very air, and step, and countenance, the Breton has something calm and grave; his songs are without melody, and his dance without vivacity; always the same; a long chain of men and women holding each other by the hand, alternately extended and folded; it is without grace and without lightness, like the instrument which accompanies it, a species of bagpipe, monotonous and drawling.

His love of money is extreme. If he is obliged to make a payment, he delays as long as possible the period assigned; the sum—he has forgotten it—he must be reminded of it, then he endeavours to get still some deduction; at last he determines to pay, but it is piece by piece, and in the worst money that he can find. On the contrary, does he receive a crown, he hastens to change it for copper money, of which he gets a much larger quantity, or perhaps he hides it with others which he is hoarding. At the time when the six-livre pieces and the louis were become rare enough to be withdrawn from circulation without inconvenience, a term was fixed beyond which they would no longer be current. It was astonishing the enormous quantities of these pieces which then suddenly arrived at the mints; there were several millions of them, and these millions came almost wholly from Brittany. "This inclination to save," says M. Souvestre, "is

* Rapports de, 1835, p. 8; 1836, p. 7; 1838, p. 11.

perhaps the most conspicuous trait in the Breton character. It is the penuriousness of a people more pertinacious than enterprising*."

The poorer classes show an ardent desire for fermented liquors; and as in Britanny there is little civilization and much poverty, there is also amongst its inhabitants an irresistible taste for drinking and getting drunk. The voice of employers, the exhortations of priests, the excessive amount of the duties, nothing has succeeded in overcoming this degrading vice, which many women share with the men. On the other hand, the frankness of the Breton, and his proverbial tenacity of purpose, are sufficiently well known; nor is his bravery less so. In the army, he is a courageous and docile soldier, and at sea a no less intrepid sailor. In the higher ranks, education and society add to these natural qualities their knowledge and grace, and both give to a mind already proud and susceptible, yet more of delicacy and elevation, and to a spirit quick and original, yet firm and serious, still more of power and character.

Our report (conclude our authors) will thus have informed the Academy to what point the art of cultivating the earth, the methods which it teaches, and the instruments which it employs, are yet unknown in this part of France; how, in its manufactures, the repugnance to all employment of a new invention or a better process, is strong, decided, and insurmountable; and how, as a necessary result, follows the bad tillage of the land, the defectiveness of its produce, and the languishing state, we had almost said the ruin, of the two only extensive branches of industry which the province possesses. An instinct of habit seems to render the whole existence of the Breton a life of recollections and traditions. The roof which shelters him, is that which sheltered his forefathers; the pieces of furniture around him were theirs, and they are never replaced by others until they fall worm-eaten to pieces, destroyed by time. The field which he cultivates is worked just in the same manner that his father worked it, and he did precisely as his had done before him.

We may now ask what will be, for the Breton, the consequences of the new state of things which is rapidly advancing upon him? If, to the present time, sheltered by his mountains, he has been in some degree able to escape the movement around him, yet his isolation cannot last long; already new roads traverse in several directions the rampart which has protected him, and civilization gains some new ground each day, advancing from the shores to the interior, and driving into a narrower and yet narrower space the manners, the language, and even the costume, of the ancient Armorica.

* Revue des deux Mondes, t. ix., 4e serie, p. 59, an. 1837.

On the Fluctuations of the Annual Supply and Average Price of Corn, in France, during the last Seventy Years, considered with particular reference to the political periods of 1792, 1814, 1830, *and* 1848. By J. T. Danson.

[Read before the Statistical Section of the British Association, at Birmingham, in September, 1849.]

There is an idea, the origin of which does not seem to lie within the range of history, but which is proverbial in many languages, and has been expressly sanctioned by the authority of almost every great writer on the policy of nations, that mankind are first and most powerfully affected, in their social and political affairs, by the degree of ease with which they obtain their food. Hitherto, the soundness of this idea seems to have been rather taken for granted than proved. And, assuming its soundness, it does not appear to have been yet turned to any practical use commensurate with its importance. The purpose of the following paper is to submit it to a statistical test, by developing, in its broader features, the apparent operation of the price of food on the political history of France, from a date anterior to the Revolution of 1789, down to the present time.

The table next following, (marked A,) the materials of which are derived from the official accounts published by the French Government, exhibits the annual average price of wheat in France, from 1778 to 1847, inclusive, with the exception of three years (1794 to 1796, inclusive), for which no official accounts exist. The division of the table into four parts has reference to as many historical events, of considerable importance, which divide the seventy years into four nearly equal portions.

Before using this table, which contains only the prices of wheat, as a part of the basis of a train of reasoning having reference to the prices of corn, generally, in France, it is obviously necessary to show how far it may justly be so used. It is commonly assumed, and with apparent justice, that, for ordinary purposes, the current price of the article which enters most generally and largely into the customary food of a people, may be safely taken to indicate the current cost of their food generally: as, for instance, that if wheat be dear in England, food, generally, will be dear. If the inference be confined to the prices of grain, it seems not to be liable to any serious objection, provided the particular grain, the price of which is taken to indicate the prices of the rest, be, as wheat is in England, that which is used to the greatest extent, and is also that for which, in common use, other descriptions of grain may most readily be substituted in case of need. I proceed, then, first, to state the grounds on which I have assumed that the variations occurring in the price of wheat in France, may, for the purpose in view, be accepted as marking the variations in the prices of the *grain* food of the people generally. These grounds also include evidence whence may be inferred the degree of importance to be attached to variations in the price of grain food, as indicating corresponding variations in the cost of the *entire* food of the people.

TABLE A.

FRANCE.—*Prices of Wheat.* 1778-1847.

16 Years.			18 Years.			16 Years.			17 Years.		
Years.	Mean Price of Wheat, per Hectolitre.		Years.	Mean Price of Wheat, per Hectolitre.		Years.	Mean Price of Wheat, per Hectolitre.		Years.	Mean Price of Wheat, per Hectolitre	
	F.	C.		F.	C.		F.	C.		F.	C.
1778	14	70	1797	19	48	1815	19	53	1831	22	09
1779	13	61	1798	17	07	1816	28	31	1832	22	33
1780	12	62	1799	16	20	1817	36	16	1833	16	34
1781	13	47	1800	21	50	1818	24	65	1834	14	72
1782	15	29	1801	24	39	1819	18	42	1835	14	80
1783	15	07	1802	24	16	1820	19	13	1836	16	37
1784	15	35	1803	18	81	1821	17	75	1837	17	47
1785	14	89	1804	20	18	1822	15	89	1838	19	31
1786	14	12	1805	20	18	1823	17	52	1839	22	49
1787	14	18	1806	20	18	1824	16	52	1840	21	98
			1807	18	60	1825	15	74	1841	18	34
1788	16	12	1808	16	07	1826	14	81	1842	19	65
1789	21	90	1809	15	17	1827	18	31	1843	20	17
1790	19	48	1810	19	61	1828	22	03	1844	19	04
1791	16	25	1811	26	13	1829	22	59	1845	18	93
1792	22	10	1812	34	34	1830	21	17	1846	23	84
1793	35	03	1813	22	51				1847	29	34
			1814	17	78						
Avg.	17	13	Avg.	20	68	Avg.	20	53	Avg.	20	54

Archives Statistiques du Ministère des Travaux Publics, &c., 1837, pp. 6—35. Annuaire de l'Economie Politique et de la Statistique, pour 1848, pp. 179, 180. Dict. du Commerce.

The prices here stated are those of the astronomical year, and may, therefore, when reference is had to the supply, be taken to include about thirty-five weeks' sale of the produce of one harvest (that of the preceding year), and about seventeen weeks' of the harvest of the year against which the price is stated.

By the French official accounts, it appears, (1) that the quantity of grain of all kinds, annually consumed in France, of late years, has been such that, were it equally divided, it would give nearly 3 hectolitres, or about 1 English quarter, to each inhabitant; and, (2) that more than half of the whole quantity consists of wheat*. But it also appears that both the quantity of grain annually consumed, per head,

* The following summary of averages is extracted from the official accounts:—

Consommations, divisées par le nombre d'habitants.

Froment	1·72	Hectolitres.
Meteil	0·34	,,
Seigle	0·67	,,
Orge, avoine, maïs, sarrasin, chataignes	0·27	,,
Pommes de terre	2·35	,,
Legumes secs	0·09	,,

Statistique de la France, tome iv., p. 680.

and the proportion in which the grain so consumed consists of wheat, varies considerably in different parts of the country.

First, *as to the gross quantity of grain consumed:* the average, per head, for all France (continental) is, as before stated, about 3 hectolitres*. There is no department, the average for which falls much below this amount; but there are a few in which the consumption of grain, per head, ranges from $3\frac{1}{2}$ to nearly $4\frac{1}{2}$ hectolitres. It is apparent that, generally, the departments in the north and north-east of France consume most grain.

The departments in which the average quantity of grain consumed, per head, is said to be greatest, are :

	Hectolitres, per head.
Somme	4·25
Oise	3·76
Seine-et-Oise	3·68
Eure	3·65
Loire-et-Cher	4·45
Indre-et-Loire	4·43

Total population in 1846—2,444,192.

And the departments in which the average quantity of grain consumed, per head, is said to be least, are :

	Hectolitres, per head.
Lozère	2·53
Ardèche	2·69
Haute-Loire	2·46
Loire	2·45
Allier	2·62
Pyrénées Orientales	2·52

Total population in 1846—1,794,226.

It will be observed that the first group is made up of four departments (Somme, Oise, Eure, and Seine-et-Oise,) which lie together, in the extreme north of France; and of two interior departments, (Loire-et-Cher and Indre-et-Loire) south-west of, and at no great distance from Paris. The four departments first named have more, and the two last named have considerably less, than the average density of population for the whole country†.

The second group consists of five departments (Lozère, Ardèche, Haute-Loire, Loire, and Allier) lying together in the southern centre of France, and of one at the extreme south of France, bordering on the Mediterranean. Ardèche and Loire have a population above the average density; and the rest have a population below that average.

Secondly, *as to the quantity of wheat consumed:* the average, per head, for all France, (continental,) is stated to be 1·72 hectolitres, which is equivalent to about $4\frac{3}{4}$ English bushels. Here, however, the variation from the common average, in particular localities, is much greater than is observed as to the consumption of grain, generally. In some departments, the annual consumption, per head, does not exceed a

* This average includes chesnuts (chataignes), where these are commonly consumed as part of the food of the people. The accounts relied upon do not afford the means of excluding this part of the total; but they do afford evidence that it is not of sufficient importance to disturb materially the general result.

† Annuaire pour l'an 1849, publié par le Bureau des Longitudes, pp. 192—194.

quarter of a hectolitre, (less than two-thirds of a bushel,) while in others it reaches 3 hectolitres, and so exceeds an English quarter, per head. But the consumption of wheat, as a principal article of food, does not appear to be confined to any particular section of the country; the departments in which the annual consumption, per head, is stated to be greatest, being distributed, with much regularity, over its entire surface. Thus the ten departments in which the quantity of wheat consumed, per head, appears to be greatest, are :—

	Hectolitres, per head.	
Seine-Inférieure	2·54	
Calvados	2·89	
Seine-et-Oise	2·53	(lowest.)
Seine	2·75	
Indre-et-Loire	2·61	
Lot-et-Garonne	2·84	
Var	2·72	
Bouches-du-Rhône	2·86	
Gers	3·07	(highest.)
Tarn-et-Garonne	3·06	

Total population in 1846—5,076,945.

The six departments first named have more, and the four last named have less, than the average density of population for all France.

The departments in which the wheat consumed, per head, appears to be least, are :—

	Hectolitres, per head.	
Côtes-du-Nord	0·82	
Finistère	0·45	
Morbihan	0·25	
Creuse	0·54	
Puy-de-Dôme	0·84	(highest.)
Loire	0·26	
Cantal	0·18	(lowest.)
Haute-Loire	0·21	
Ardèche	0·46	
Lozère	0·31	

Total population in 1846—4,145,095.

Six of these departments (Morbihan, Finistère, Côtes-du-Nord, Puy-de-Dôme, Loire, and Ardèche,) have more, and the remaining four have less, than the average density of population for all France.

It appears, then,

1. That there are few of the departments of France in which the average consumption of *grain*, of all kinds, per head, per annum, falls short of an imperial quarter;
2. That considerably more than half (by measure) of all the grain food consumed in France, consists of *wheat;* and
3. That though the consumption of wheat, as a large proportion of the food of the people, is confined to particular localties, these localities are so distributed, that whatever changes materially affect them, may be safely assumed to affect, more or less, the whole country, by the inevitable substitution of cheap grain for dear, whenever any considerable difference of supply may occur, in the same season, between grain of different kinds.

Now to return to Table A:—the first period in the table includes the prices of sixteen consecutive years, from 1778 to 1793, inclusive. If the first *ten* years be regarded separately, it will be seen that the lowest annual average in that period was 12f. 62c. per hectol. (in 1780); and that the highest was 15f. 35c. (in 1784.) The general average for these ten years was 14f. 33c.

The last six years present a remarkable contrast. Their common average was 21f. 81c., an advance of more than 50 per cent. upon the average of the preceding ten years; and the annual range of fluctuation was enormously greater. The price of 1789 was more than 50 per cent. above that of 1787*; and the price of 1793 was considerably more than 100 per cent. above that of 1791. It is, however, to be observed that the official returns do not extend beyond the 1st of July, 1793†, and so include only half of that year. The harvest of 1793 brought relief; and it appears from the police records of Paris, that in the month of August, in that year, wheat was valued at 26f. 66c. It is probable, therefore, that a complete average for 1793 would have been lower than that stated in the table, though not so much lower as to alter the general character of the fluctuation described.

Before leaving this period of sixteen years, (1778-1793,) it seems necessary to observe that the first part of it—embracing the ten years ending with 1787,—is distinguished in a remarkable manner, as to the general range of the prices of corn, from every subsequent period of a similar length. To go back to any date anterior to the middle of the eighteenth century, would be to take average prices upon which, probably, very little dependence can be safely placed for a comparative purpose, on account both of the deficiency of the methods by which they were obtained, and of the great variety of prices prevalent, even in neighbouring provinces, while the means of communication were so defective, that the cost of carriage increased the price of corn by 100 per cent. within no great distance. But the common average price of wheat for the ten years from 1766 to 1775, inclusive, was 18f. 66‡. I have just stated that the average of the ten years 1778-87, was only 14f. 33c., or less by upwards of 20 per cent. And if the average of any subsequent period of ten or more than ten years, be taken, at any date down to the present time, it will be found to range very little above or below 20f. per hectolitre. Indeed the fixity of the average for any long period since 1790, has been repeatedly noticed by French writers. In an article by M. H. Passy, in the current number of the Political "Annuaire," it is illustrated by the statement of five decennial averages, as follows:

* In the month of June, 1789, just before the destruction of the Bastille (14 July), the price of wheat, at Paris, reached 29 f. 32 c.—Rapport du 3 Novembre, 1848, par M. de Cambray.

† Grain ceased to be sold under official inspection after the 1st of July, 1793, until the 30th of August, 1795; and from the latter date till the 20th of May, 1796, the price was taken in assignats, and was not regularly taken in specie till near the end of 1796. From 1793 to 1797, therefore, there is, necessarily, a blank in the tables.—Annuaire de l'Economie Politique, pour 1849, p. 337.

‡ Rapport du 3 Novembre, 1848, adressé au Préfet de la Seine, par M. de Cambray.

De 1797 à 1807, le prix a été, par hectolitre,			20 fr.	20 c.
1807 à 1817	,,	,,	21	84
1817 à 1827	,,	,,	19	69
1827 à 1837	,,	,,	19	03
1837 à 1847	,,	,,	20	05

And the less regular division of periods adopted in the present paper presents still more conclusive evidence that, since the first revolution, the general price of corn in France has ranged higher, by at least 30 per cent., than it did in the ten years immediately preceding that event. As thus:—

From 1778 to 1787	10 years	14 fr.	33 c.
1788 to 1793	6 years	21	81
1797 to 1814	18 years	20	68
1815 to 1830	16 years	20	53
1831 to 1847	17 years	20	54

It seems, therefore, requisite to a due appreciation of the social and political effect of the prices of 1788-93 (whatever this may have been) to observe that, though the common average of these prices was but little above the average since common in France, it was very much above that previously prevalent; and that the transition, begun by the deficient harvest of 1788, was from prices at once low and uniform to prices unusually high and unusually changeable.

II. The second period includes the prices of eighteen years. The lowest annual price is that of 1809, (15f. 17c.) and the highest that of 1812, (34f. 34c.) The average of the entire period, is 20f. 68c.; and the range of fluctuation more than 120 per cent. upon the lowest annual price.

But if we take the twelve years from 1803 to 1814 inclusive, we find they divide themselves into two distinct periods: into eight years of moderate or low prices, without any considerable fluctuation, followed by four years of prices both high and changeable. Thus: the common average of the eight years from 1803 to 1810, inclusive, was 18f. 60c., the highest annual price in the same period being 20f. 18c. and the lowest, 15f. 17c. The common average of the three years 1811-12-13, was 27f. 66c., an advance of more than 50 per cent. upon the average of the preceding eight years; and the whole rise of price, in three years, from 1809 to 1812, was from 15f. to 34f., while the fall of price in the two next years, from 1812 to 1814, was from 34f. to less than 18f. The distress these changes, effected within the short period of five years, were calculated to inflict upon the people of France, both as producers and consumers, is obvious.

III. The third period embraces sixteen years: from 1815 to 1830, inclusive. This period, it will be observed, has a striking resemblance to the one preceding. It has, at the commencement, three consecutive years of high prices. The years 1816-17-18, may be compared with 1800-1801-1802. Then came nine years (1819 to 1827) of moderate or low prices, without any considerable fluctuation, and with the lowest prices in the last years. This period coincides, nearly, in character, (and thence in its probable effect upon the condition of the people) with the eight years before noticed, from 1803 to 1810. And finally, there are three years of high prices (1828-9-30) similar to 1811-12-13 in the former period.

One slight difference there is; and it is worthy of notice. The high prices of 1811-12-13 were higher and less uniform, and so, apparently, more likely to produce distress, than those of 1828-9-30. But on the other hand, it will be observed that the average range of prices in the years preceding 1811-12-13, and with which the prices of those years would be compared, was also higher; and experience seems to warrant the inference that it is the relative, rather than the absolute, elevation of price that makes itself felt on such occasions. I have also to add, that the price of *bread* was actually higher *in Paris* in the later than in the earlier of these two periods of scarcity. According to the police record* of the official price of bread in Paris, it reached a maximum of 90 cents. for the loaf of two kilogrammes, in April 1812. It again reached the same maximum in April 1813. And this appears to have been the utmost effect of the scarcity of that time upon the price of bread in the metropolis. But in December, 1828, the price of the loaf of the same size, reached 97½c.; and in June, 1829, it was 1f. 5c. or 5c. higher than it had been at any period since 1800, even during the scarcity of 1817-18†. The difference, then, between the high prices of 1811-12-13, and those of 1828-9-30, by which the latter would appear to have been more tolerable in effect, may be set down as rather apparent than real.

IV. The fourth period includes the seventeen years from 1831 to 1847, inclusive. In it, the course of prices, it will be seen, differs but little from that so uniformly repeated in the three preceding periods. Like the second and third periods, it had high prices at its commencement in 1831 and 1832. There were then four years of low, and two of moderate prices, followed by a return of prices exceeding, but not much exceeding, the average of 20f. for two years, in 1839 and 1840. Afterwards came five years of moderate prices, with little fluctuation; and, finally, two years of prices higher than had been known since 1817-18. In truth, this period resembles those preceding very closely. It had first two years of high prices, then thirteen consecutive years, of which only one (1839) had an average materially exceeding 20f., (it was 22f. 49c.) and it ended with two years of prices higher than had been known in France for 30 years.

Without the slightest exception, all these four periods ended with two or three years of unusually high prices, following five or six consecutive years, at least, in which prices were low or moderate.

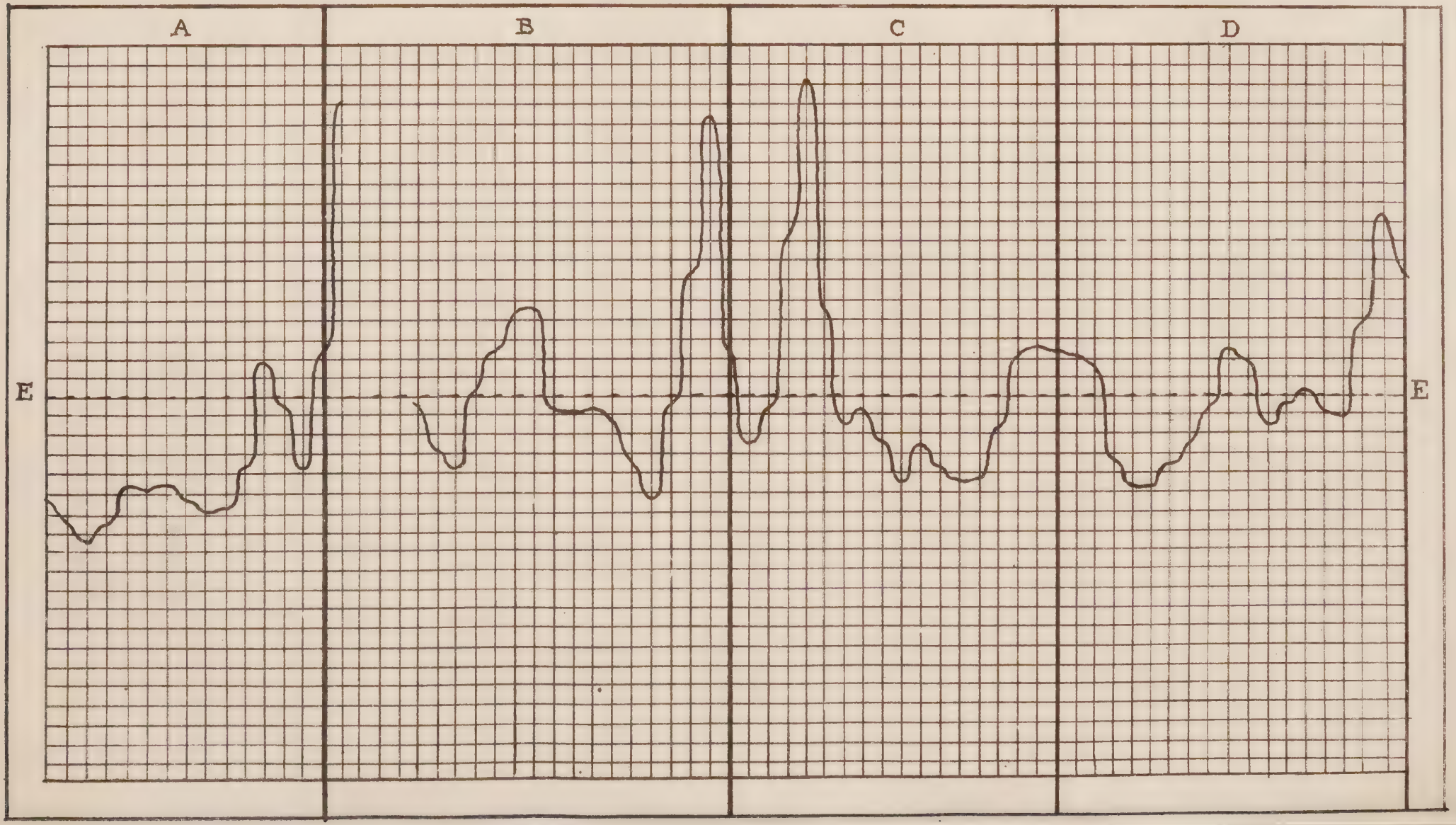
Explanations of Diagrams annexed—Nos. 1 & 2.

No. 1.—*The vertical lines represent the successive years referred to in Table* A, *from* 1778 *to* 1848, *inclusive. The horizontal lines represent francs, in the price of each year. The dotted line, E E, marks the uniform level of* 20 *francs per hectolitre of wheat, this being, as before stated, very nearly the common average of any considerable number of years since* 1789; *and the strong waved line, crossing this, indicates the variations of the annual price, above and below the average, as given in*

* La Collection Officielle des Ordonnances de Police de 1800 à 1844, printed in 1846. Annuaire de l'Economie Politique, pour 1846, p. 280.

† And here it will be remembered that scarcity in Paris is scarcity at the peculiar centre of French political movement.

Nº I.



N°2

Table A. *The spaces marked A, B, C, D, correspond with the four periods for which the prices are separately stated in that table.*

No. 2—*Is a sketch of France, in its present limits. The dotted lines show the division of the country adopted in the tariff to regulate the levy of four different rates of duty on the importation of corn. The spaces marked A indicate the locality of the ten departments in which the* most *wheat per head is consumed; and those marked B, the ten in which the* least *is consumed.*

I now invite your attention to another series of tables, relating to the same four periods of years.

They exhibit the quantities of grain, flour, and meal, of every description, of foreign production, imported into France, and there taken into consumption, in each year; and also the quantities of French produce, of the same description, exported in each year; with the annual *excess* of such imports or exports, as the case may be. The purpose of these tables is to show, with as much distinctness as the subject admits of, to what extent in each year the French people either consumed foreign grain, to make up a deficiency of the home growth, or sent a surplus of their produce abroad. (*See the next page.*)

To simplify the statement, all the various descriptions of cereal produce, enumerated in the official accounts, have been reduced to a common measure of weight—the metrical quintal.

The manner in which the conversion was effected, for the last ten years, is stated at the foot of the page*.

For the preceding sixty years, I have used the results of a similar computation, made in 1838, by an eminent French statist, (M. Millot,) for another purpose.

I. Here the first period begins with a year in which the home supply was deficient. The French statists estimate the average consumption of grain in that country, by weight, during the last sixty or seventy years, at about 180 kilogrammes (or about 400 lbs. avoirdupois) per head, per annum. This, as the population in 1778 was about 22,000,000, would make the average daily consumption of the entire kingdom about 110,000 quintals; consequently the deficiency of that year rather exceeded the quantity required for five days.

In the next three years, there was a surplus of exports—an evidence of plenty: in 1779, to the extent of nearly two days' consumption; and in 1780 and 1781, to the extent of nearly ten days' consumption in each of these years.

* The metrical quintal is equal to a hectolitre of pure water at its maximum density, or to 220·49 lbs. avoirdupois; and the conversion of measure into weight has been effected by the following scale, which is deduced from the best French authorities on the subject:—

Wheat is converted at	75	kilogrammes	to the	hectolitre.
Barley	,,	63	,,	,,
Oats	,,	44	,,	,,
Rye	,,	70	,,	,,
Buckwheat	,,	68	,,	,,
Maize	,,	60	,,	,,
Rice	,,	80	,,	,,

Bread and biscuit are taken at 100 kilogrammes to the hectolitre, and flour and meal at 120 kilogrammes.

TABLE B.

FRANCE.—*Corn Imported and Exported.*

Years.	Grain, Flour, and Meal.		Excess of	
	FOREIGN. Imported, and taken into Consumption.	FRENCH. Exported.	Imports.	Exports.
	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.
1778.....	635,617	70,050	565,567	....
1779.....	81,808	265,639	....	183,831
1780.....	58,498	1,022,415	....	963,917
1781.....	37,689	969,542	....	931,853
1782.....	209,684	95,936	113,748	....
1783.....	118,216	178,210	....	59,994
1784.....	66,428	307,063	....	240,635
1785.....	118,530	383,414	....	264,884
1786.....	346,211	386,007	....	39,796
1787.....	167,445	605,102	....	437,657
1788.....	181,174	662,723	....	481,549
1789.....	1,830,010	77,761	1,752,249	....
1790.....	1,689,228	132,409	1,556,819	....

In the fifth year of the period (1782), the scale was turned slightly the other way, and there was a net importation of about one day's consumption.

The six years from 1783 to 1788 inclusive, were all, apparently, years in which the French were better provided for than their neighbours, for in each there was an excess of exports; and the concurrent range of prices (see Table A) leaves no room for doubt, that in all these years, excepting the last (1788), when the price was slightly raised, the home supply was abundant. In each of the years 1787-88, the surplus exported (allowing for the increase of the population) was equal to about four days' consumption.

But here, again, we see that the period closed with two years of what, comparatively, must have been great scarcity. The quantity of foreign corn taken into French consumption (in excess of exports) in 1789, was equal to the supply of the whole country for fourteen days; and in 1790, it was equal to the supply of twelve days. The net cost of the foreign supply of 1789, at the current price of the year, would be about 38,700,000f. (1,525,000*l.*); and that of 1790, about 33,000,000f. (1,320,000*l.*)*

* That these large importations had a material effect on the price, is apparent in Table A, where we find the annual average declining, after 1789, till, in 1791, it got down to 16 f. 25 c. And it is worthy of notice, that from the first week in October, 1789, down to June, 1791, the revolution was carried on with but little violence, and rather by politicians than by the people. The interval of lower prices, was one of comparative tranquillity.

"Twenty months now [after the events of the 5th and 6th October, 1789] elapsed of comparative tranquillity. There is no striking event; much intrigue, indeed, fiery debating, the training, dividing and forming of parties. The revolutionary monster slumbered, stirring at times, and showing life by starts, but not awakening fully."—History of France, in the Cabinet Cyclopædia, by E. E. Crowe, ii., 304.

Between the first and second periods, there is a blank of nine years (1791-1799), for which there appear to be no official accounts.

TABLE C.

FRANCE.—*Corn Imported and Exported.*

Years.	Grain, Flour, and Meal.		Excess of	
	FOREIGN. Imported, and taken into Consumption.	FRENCH. Exported.	Imports.	Exports.
	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.
1800.....	34,117	415,957	....	381,840
1801.....	87,769	104,930	....	17,161
1802.....	964,747	8,111	956,636	....
1803.....	195,531	58,107	137,424	....
1804.....	198,126	565,658	....	367,532
1805.....	167,362	1,089,629	....	922,267
1806.....	463,367	571,075	....	107,708
1807.....	393,410	651,289	....	257,879
1808.....	303,036	857,974	....	554,938
1809.....	391,428	894,439	....	503,011
1810.....	454,503	1,341,908	....	887,405
1811.....	1,054,258	72,632	981,576	....
1812.....	1,399,408	35,363	1,364,045	....
1813.....	577,096	5,282	572,014	....
1814.....	3,288	1,421,809	....	1,418,521

II. Entering upon the second period, we find, first, two years (1800 and 1801) in each of which there was an excess of exports, but only sufficient, when taken in connection with the high prices of the same years, to show that, though France shared the scarcity common to Europe in those years (and severely prevalent in Britain), she was in a better condition than some of her neighbours, and so could spare them a small amount of aid. Then came two years (1802-3) in each of which there was an excess of importation; but here, again, reference to the concurrent range of prices (these being rather lower than in the two preceding years), seems to prove that the apparently unfavourable change arose rather from a greater abundance of foreign, than from any increased scarcity of French, corn. In 1802, the excess of importation amounted to seven days' supply for the estimated population of that period.

But the most striking feature of this period is seen in the regular excess of exports for seven consecutive years, from 1804 to 1810, amounting, on an average, to 514,000 quintals (or about four days' consumption for the entire country) per annum.

I cannot but consider it a point of much historical interest to fix precisely the range of so long and uniform a period of plenty. The averages here stated are, as usual, those of the astronomical years; they may, therefore, be taken to indicate the market value of about two-thirds of one crop and one-third of the next; so the first of the seven good years is clearly to be referred to the harvest of 1803—of

that summer during which Bonaparte formed the camp at Boulogne, and prepared his election to the imperial throne in the following spring. The last ended with the gathering of the deficient harvest of 1810—the year in which the events of the Peninsular war began to run decidedly against France, and in which Napoleon determined upon urging his final and fatal dispute with Russia. Thus these seven years of plenty were also, in a marked degree, years of political prosperity.

In the three years 1811-12-13, the French bought for consumption nearly as much corn as they had exported in the six preceding years, and that at prices from 30 to 40 per cent. higher. Allowing for the increase of population, the excess of importation in 1811 was equal to about eight days' consumption for the kingdom of France, within its ancient and present limits; in 1812, it equalled about ten days' consumption; and in 1813, about four days'. These three years of scarcity were, also, in a marked degree, years of political discontent and adversity.

The autumn of 1813 brought a change for the better. The breadth of land sown with grain had been increased, the harvest was abundant, and the imports of the spring and summer were immediately balanced, in part, by exports. But before the effect of this renewal of abundance could be looked for, the dynastic period before us was virtually closed, by the decisive defeat of Napoleon at Leipsic (18th October, 1813), though its formal termination did not take place till the following spring.

TABLE D.

FRANCE.—*Corn Imported and Exported.*

Years.	Grain, Flour, and Meal.		Excess of	
	FOREIGN. Imported, and taken into Consumption.	FRENCH. Exported.	Imports.	Exports.
	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.
1815.....	133,457	757,314	....	623,857
1816.....	1,459,771	169,778	1,289,993	....
1817.....	1,794,425	177,066	1,617,359	....
1818.....	1,515,704	200,000	1,315,704	....
1819.....	1,024,018	200,000	824,018	....
1820.....	662,602	404,736	257,866	....
1821.....	647,943	246,910	407,033	....
1822.....	152,034	251,869	....	99,835
1823.....	139,035	249,350	....	110,315
1824.....	167,741	252,448	....	84,707
1825.....	156,432	310,960	....	154,480
1826.....	136,266	452,672	....	326,406
1827.....	156,815	628,957	....	472,142
1828.....	1,051,296	249,889	801,407	....
1829.....	1,800,481	270,475	1,530,006	....
1830.....	1,858,485	192,096	1,666,389	....

III. The circumstances of the third period are so clearly marked by the alternate excesses of imports and exports, that its character can hardly be more fully or clearly expressed by any addition of words to the figures.

It is apparent that the abundance of 1814 was continued, though to a diminished extent, in 1815; but the harvest of 1815 was deficient, and so were the five harvests next following, without exception. Accordingly, there was an excess of imports in every year from 1816 to 1821 inclusive, though these were by much the heaviest in 1816-17-18, and were comparatively small in 1820 and 1821.

Then came six consecutive years of abundance, following the six full harvests of 1821 to 1826 inclusive; and the greatest excess of exports, as seems usual in such cases, is found in the two last years.

After this very equable interchange of scarcity and abundance, covering twelve years, by two movements, there was again a return of scarcity for five years, only three of which, however, fall within the period at present in view. In 1828, the excess of imports was more than 800,000 quintals; in 1829, it exceeded 1,500,000 quintals, and was larger than had taken place in any year since 1789, excepting only 1817; and in 1830, the excess of imports was actually greater even than in 1817*.

TABLE E.

FRANCE.—*Corn Imported and Exported.*

Years.	Grain, Flour, and Meal.		Excess of	
	FOREIGN. Imported, and taken into Consumption.	FRENCH. Exported.	Imports.	Exports.
	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.
1831.....	1,017,223	370,173	647,050	....
1832.....	3,747,889	280,472	3,467,417	....
1833.....	161,273	274,802	....	113,529
1834.....	102,314	254,457	....	152,143
1835.....	120,174	297,899	....	177,725
1836.....	181,451	199,554	....	18,103
1837.....	228,806	199,888	28,918	....
1838.....	297,366	527,837	....	230,471
1839.....	1,128,269	832,094	296,175	....
1840.....	2,078,992	277,353	1,801,639	....
1841.....	275,382	808,605	....	533,223
1842.....	703,160	945,695	....	242,535
1843.....	1,819,867	312,614	1,507,253	....
1844.....	2,112,202	358,943	1,753,259	....
1845.....	741,112	714,313	26,799	....
1846.....	4,010,615	402,580	3,608,035	....
1847.....	8,494,562	273,824	8,220,738	....

IV. The fourth period has a special interest, in its comparatively recent date; I have therefore devoted the more attention to its details. To the tables of annual prices, and annual excesses of imports or exports, given for the preceding periods, I have added another (F), showing

* I have already (ante, p. 158,) adduced evidence that the price of bread in Paris was higher in 1829 than in 1817.

the *value* of the annual excess imported or exported, at the average price of the year; and I have also stated, in a separate table (G), the quantities of *each description of grain and flour* imported (for consumption) and exported (of French produce) during the ten years from 1838 to 1847 inclusive.

TABLE F.

FRANCE.—*Estimated Cost of Excesses of Imports and Exports (annually) of Grain, &c.*

Years.	Excess of Imports. of Grain, Meal, and Flour.	Excess of Exports. of Grain, Meal, and Flour.	Estimated Price, per Metrical Quintal.	Amount Paid.	Amount Received.
	Met. Quintals.	Met. Quintals.	F. C.	Francs.	Francs.
1831....	647,050	....	29 50	19,086,000	....
1832....	3,467,417	....	29 75	108,510,000	....
1833....	....	113,529	21 75	....	2,458,700
1834....	....	152,143	19 63	....	2,990,000
1835....	....	177,725	19 75	....	3,514,000
1836....	....	18,103	21 80	....	394,500
1837....	28,918	....	23 33	677,000	....
1838....	....	230,471	25 75	....	5,935,000
1839....	296,175	....	30 0	8,880,000	....
1840....	1,801,639	....	29 33	52,829,000	....
1841....	....	533,223	24 50	....	13,058,000
1842....	....	242,535	26 20	....	6,353,000
1843....	1,507,253	....	26 90	40,538,000	....
1844....	1,753,259	....	25 40	44,525,000	....
1845....	26,799	....	25 25	676,700	....
1846....	3,608,035	....	31 75	114,554,000	....
1847....	8,220,738	....	39 12	321,600,000	....
	21,357,283	1,467,729	....	711,875,700	34,703,200

TABLE G.

Years.	Wheat and Wheat Flour.		Barley.		Oats and Oatmeal.	
	Imported.	Exported.	Imported.	Exported.	Imported.	Exported.
	Met. Quint.	Met. Quint.	Met. Quint.	Met. Quint.	Met. Quint.	Met. Quint.
1838....	75,349	445,435	64,486	19,901	51,557	5,571
1839....	880,595	548,524	44,356	221,963	26,872	17,366
1840....	1,669,071	128,575	27,895	100,504	23,106	10,332
1841....	117,189	594,583	8,113	118,880	21,290	6,145
1842....	421,139	605,452	58,748	37,012	70,232	6,212
1843....	1,517,874	192,306	45,765	20,028	71,019	11,892
1844....	1,855,031	250,107	51,234	51,279	8,456	13,321
1845....	561,511	294,251	13,420	59,009	2,200	44,094
1846....	3,673,046	157,287	21,515	19,676	39,644	12,332
1847....	7,421,712	130,919	123,330	19,210	350,736	9,587

TABLE G.—*Continued.*

Years.	Rye.		Buckwheat.		Maize.	
	Imported.	Exported.	Imported.	Exported.	Imported.	Exported.
	Met. Quint.	Met. Quint.	Met. Quint.	Met. Quint.	Met. Quint.	Met. Quint.
1838....	684	13,559	114	440	2,255	20,116
1839....	18,294	11,254	221	190	13,334	7,831
1840....	169,331	6,269	227	251	48,196	6,268
1841....	1,312	52,076	139	1,856	4,380	8,043
1842....	9,494	214,845	266	28,580	13,221	20,850
1843....	11,019	57,800	123	1,832	20,506	6,700
1844....	21,677	20,008	121	438	47,941	5,773
1845....	654	166,212	24	129,365	32,319	1,774
1846....	44,894	103,806	103	74,439	48,758	11,341
1847....	279,176	4,543	....	12,388	56,799	63,316

Years.	Rice.		Bread and Biscuit.	
	Imported.	Exported.	Imported.	Exported.
	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.	Metrical Quintals.
1838.....	102,899	2,486	22	20,329
1839.....	144,483	3,641	114	21,345
1840.....	140,979	1,873	187	23,281
1841.....	122,866	1,641	73	25,381
1842	129,990	1,699	70	31,045
1843.....	153,483	1,941	78	20,115
1844.....	127,676	2,831	66	15,186
1845.....	130,825	3,735	159	15,873
1846.....	181,909	5,678	746	18,021
1847.....	259,346	18,289	3,463	15,572

On looking at the table (F) showing the value of the excesses of imports and exports, the difference is strikingly apparent between the two conditions of having a surplus of corn to dispose of, and having a deficiency to make up. As a rule, what is exported by a well-supplied community, goes out at a low price—what is imported comes in at a high one. So the foreign transactions in this kind of a nation like France, when favourable, are matters of little moment, but, when unfavourable, indicate distress. And, as regards the consumers only (the bulk of the community), the same remark applies to the purchase of the home supply. And, hence, it may be observed, how much more important are the figures in these tables, indicating scarcity in particular years, than at first sight they would appear.

The harvests of 1830 and 1831 seem to have been at least as deficient as any of the three preceding; and in 1832, the excess of imports was twice as large as it had ever been in any previous year, an effect, no doubt, partly to be attributed to successful exertions made elsewhere to increase the supply, after four consecutive years of deficiency and high prices, throughout Europe. The apparent cost of this excess of imports, in 1832, was about 108,500,000f. (about 4,000,000*l.*).

Then came six years (1833-38) of low prices, and apparent plenty, as indicated by an excess of exports during five of these years, and a very small excess of imports in one.

In 1839 and 1840, the price rose above the average of 20f. The excess of imports during the two years together, approached 2,000,000 of quintals, and may be valued at about 60,000,000f. In 1840 alone, the excess was equal in quantity to about ten days' consumption for the whole kingdom. Still, the annual price was not so much as 2f. above the general average.

The years 1841 and 1842 were of a different character: the price was again under the average, and the excess of exports was greater in each of these two years, than it had been in any year since 1827. Yet, it will be observed, that the price was little below the average. In the next two years, (1843-44) the scale was again turned the other way, and the excess of imports was as large as it had been in 1829 and 30. But yet, again, it will be observed, the prices hardly exceeded the average of 20f., so that the excess of imports in 1839-40, of exports in 1841-2, and, again, of imports in 1842-3, are evidently traceable rather to comparative abundance, followed by comparative scarcity, and again by comparative abundance, *in neighbouring countries*, than to any material change of the relation of supply and demand in *France*, during this period. In 1845, the price was decidedly under the average; and there was a slight, but a very slight, excess of imports.

It appears, therefore, that the whole period of 13 years, from 1833 to 1845, may be properly described as divided into two equal parts, consisting of six years of abundance and low prices, (1833-38,) and of six years of an average supply, and average prices, (1840-45), the two periods being divided by the occurrence of one year (1839) of prices decidedly, but not greatly, exceeding the average.

The last two years of this period make it end in a manner very similar to that already observed as to each of the three preceding.

The deficiency of the harvest of 1845, as reflected in the average price, and in the excess of imports attributed to the year 1846, must have been considerable. The excess of imports amounted to 3,600,000 quintals, enough to supply the population of that year with grain for twenty days. The average price of the year, being kept down by the large foreign supply, did not quite reach 24f. per hectolitre. But in 1847, the price of the year rose to nearly 30f.; and the excess of imports exceeded 8,220,000 quintals, or enough to supply the entire kingdom for forty-five days. The apparent outlay for foreign grain was, in 1846, 114,500,000f., and in 1847, upwards of 320,000,000f., or in the two years about 17,000,000*l.* sterling.

Judged by the fluctuation of prices alone, it would seem that the close of this fourth period was not marked by so severe a pressure upon the people, as were those of the three preceding periods. When, however, we remember the increased facilities of communication between France and other countries, introduced during the seventy years here brought to view, and observe that through these the scarcity of 1846-7 was so far supplied, as to keep down the price, we are led to look for part of the infliction of that period, in the amount disbursed for foreign corn imported. And in this form, we find it without parallel.

In order to facilitate a comparison of the prices in France and in England, in the years comprised in Table A, I add here a corresponding table for the latter.

TABLE H.

ENGLAND.—*Prices of Wheat.* 1778-1847.

Years.	Mean Price of Wheat, per Imperial Quarter.		Years.	Mean Price of Wheat, per Imperial Quarter.		Years.	Mean Price of Wheat, per Imperial Quarter.		Years.	Mean Price of Wheat, per Imperial Quarter.	
	s.	*d.*		*s.*	*d.*		*s.*	*d.*		*s.*	*d.*
1778	43	3	1797	53	9	1815	65	7	1831	66	4
1779	54	8	1798	51	10	1816	78	6	1832	58	8
1780	36	9	1799	69	0	1817	96	11	1833	52	11
1781	46	0	1800	113	10	1818	86	3	1834	46	2
1782	49	3	1801	119	6	1819	74	6	1835	39	4
1783	54	3	1802	69	10	1820	67	10	1836	48	6
1784	50	4	1803	58	10	1821	56	1	1837	55	10
1785	43	1	1804	62	3	1822	44	7	1838	64	7
1786	40	0	1805	89	9	1823	53	4	1839	70	8
1787	42	5	1806	79	1	1824	63	11	1840	66	4
1788	46	4	1807	75	4	1825	68	6	1841	64	4
1789	52	9	1808	81	4	1826	58	8	1842	57	3
1790	54	9	1809	97	4	1827	58	6	1843	50	1
1791	48	7	1810	106	5	1828	60	5	1844	51	3
1792	43	0	1811	95	3	1829	66	3	1845	50	10
1793	49	3	1812	126	6	1830	64	3	1846	54	8
			1813	109	9				1847	69	9
			1814	74	4						
Avg.	47	2	Avg.	87	6*	Avg.	66	7	Avg.	56	10

I have now only a word or two to add, as to the division of this period of seventy years, by the political dates, 1792, 1814, 1830, and 1848. I trust I have shown some ground for the opinion that these are, in fact, the *natural* divisions of a history of the French corn-market, since 1778; for this is the only justification of the division a statist can properly recognise. To go farther, to enter upon any discussion of the political significance of the facts exhibited, would, of course, here, be out of place. I may, however, observe, that I believe these tables will be found, not only confirmatory of the aphorism that "the world is much ruled by the belly," but strongly suggestive of the conclusion, that the history of prices (especially as it regards the food of the people,) may, in the order of practical importance to mankind, take precedence of the history of politics.

* This average is, of course, liable to some deduction, on account of the prices being stated in a currency in some degree depreciated, during the greater part of the period to which it relates. And the same remark is applicable, though very slightly, to the average of the column next following.

Vital Statistics of Calcutta. By Dr. Cuthbert Finch.

[Read before the Statistical Section of the British Association for the Advancement of Science, August, 1848.]

At a time when the sanatory condition of the growing cities of Britain is justly occupying so much and such anxious attention, a view, as complete as it can be rendered, of that of the great city which forms the capital of its Eastern empire, will not be without interest and instruction.

Calcutta stands on the left bank of the Hoogly, a principal branch of the Ganges, but a few feet above high-water-mark, and shelves away almost imperceptibly towards the east, where it is some feet below the level of the sea. The progress of the modern city has been rapid: from being an insignificant collection of straggling houses around a fortified factory, whose existence was precarious, dependent on the capricious will of an Oriental despot, threatened and endangered by the influence of jealous and powerful rivals, it has become in less than a century the most populous and magnificent city in Asia, the emporium of the East, and the capital of an Empire bounded only by physical barriers, the Himalayan mountains on the north, and the Indian ocean on the south.

The modern city is not of uniform appearance: it is distinctly divided into two parts; the one may be called the southern or European, the other the northern or Native portion. These are dissimilar in their general plan, in the appearance of the streets and the structure of the houses, and are characterized by different races of inhabitants.

The southern division is distinguished by greater regularity, wider streets, and detached buildings, and is inhabited by Europeans or their descendants.

The northern has the appearance of a dense accumulation of houses and huts, of narrow lanes and alleys, and interminable bazaars, and is almost exclusively occupied by Asiatics, Hindoos, and Musselmans.

The southern part, consisting as it does in a great measure of detached villa residences, surrounded by gardens or court-yards, is not populous for the extent of ground it covers.

From its structure, the northern part of Calcutta is by far the most populous, and, like most Eastern cities, it contains a very dense population for its extent.

There is a vast difference in the appearance and structure of the houses in the European and native portions of the city. The residences of the former are large, isolated, and lofty, exhibiting considerable architectural taste and variety. They are in general of three stories, and, the rooms being lofty, they are high; they are flat-roofed and surmounted with balustrades, which, with the exterior coating of white plaster, adds much to their beauty.

There are two descriptions of dwellings occupied by the native inhabitants; the one belonging to the wealthier class, whether land-owners or Zemindars, traders or employés in public or commercial offices, and that pertaining to the lower class of shop-keepers and operatives.

In the houses of the first class, there is a close similarity in plan, though varying much in size and extent. They are constructed in the form of a hollow square, the exterior of the four sides having but few apertures for air and light, and these in general small, barred, and without glass, with a view to privacy and security. With the interior or open space in the centre, numerous doors and windows communicate. They are in general of two stories, but the apartments being low, the houses are of no great height; in this, however, they vary, some being considerably higher than others, indicating the greater wealth of the occupants. The upper apartments are occupied by the family of the tenant or owner, and the lower by retainers and servants, except the northern side of the houses of Hindoos, which is the family place of worship, the abode of their idols, and denominated the Thakoor-Khanna.

The other description of dwellings of the natives includes huts of two kinds, the one built of mud and covered with tiles, the other constructed of more flimsy materials, the walls being formed of mats, and the roofs of thatch. These last shelter the indigent and lowest class of the native population, and are subject to frequent destruction by fire. In consequence of the frequency and extent of fires, and the danger of communication to the better class of dwellings, a regulation was enacted in 1835, by the municipal authorities, that every hut should in future be tiled, and attention to this judicious rule was strictly enforced for some time. Accordingly, there was a considerable reduction in this class of dwellings, as they were swept away by fires, the more substantial dwellings were erected in their stead, and in the course of a short time, through the same destructive agency and the progress of decay, it was anticipated that this dangerous description of abode would be unknown in Calcutta; but, owing to remissness on the part of those entrusted with the duty of enforcing the observance of this regulation, and the eagerness of the natives to take advantage of this want of vigilance, they have reverted to the forbidden and dangerous mode of thatching their huts, which renders the native portion of the city the scene of frequent conflagrations during the hot and cold months.

The number of this description of dwellings has been variously estimated. Three censuses have been made at different periods for the purpose of levying a house-tax, in 1793, 1822, and 1837.

The return of the assessors of house-tax in 1837, is as follows:—

Brick-built Houses, upper-roomed			6,376
Brick-built Houses, lower-roomed			4,839
Warehouses			1,439
Shops			4,786
			17,440
Tiled Huts	15,042		
Shops	1,545		16,587
Straw Huts	30,077		
Shops	1,385		31,462
Total			65,489

If we compare this return with those of earlier date, there would seem to be a considerable decrease in the number of houses at each subsequent period, at which they were made. The grand total of the

return of 1793 gives us 74,760 premises or dwellings of every description, while that of 1822 estimates the total number at 67,519, which only amounted to 65,489 in 1837, a reduction of upwards of 2,000 by the latest return.

The explanation of the cause of this decrease in the number of houses of every description is to be found in the increase of those occupied by the more wealthy classes of the inhabitants, especially Europeans, and the erection of houses for their accommodation, which, occupying a larger space of ground, have displaced a greater number of native dwellings and huts, and this substitution or change is still going on in Calcutta, as the comparison of the number of houses of each description in these returns sufficiently proves. There were in 1822, brick-built tenements of every kind, but 14,230; in 1837, the assessors of house-tax return 17,440 brick-built houses, godowns, and shops, shewing an increase of upwards of 3,000. Between 1822 and 1837 there was an addition of 795 tiled houses, while in the same interval there had been a great reduction in the inferior description of dwellings.

During the same period, there had been a considerable diminution of straw huts. There were in 1822, 37,497 straw huts; in 1837 the return by the assessors of house-tax gives us but 31,462 of these wretched huts, a diminution of upwards of 6,000, while the return of the superintendent of police makes the decrease nearly 7,000.

By far the greatest portion of the inhabitants consist of the two great families of Asiatic origin, Hindoos and Mahomedans; the former being indigenous to the soil, the latter being naturalised in the course of centuries, and do not equal in numbers a moiety of the Hindoos.

The whole of the native portion of the population is not indigenous to the city, or even to the surrounding country.

Of the Musselman inhabitants very many are natives of Hindustan, or Upper India, who come to Calcutta in search of employment, or in the prosecution of their occupations as merchants and traders; many of them settle permanently in the greatest mart of the East. Being in general more courageous and of more powerful frame than the Hindoos, a numerous body of Musselmen find employment in the service both of the European and more wealthy Hindoo residents of Calcutta, as watchmen or retainers.

The Mahomedan population of the city is divisible into two classes, the Western, and Bengal Mahomedans; the former, it has been said, may be regarded as temporary residents, while the latter are to be counted among the permanent inhabitants of Calcutta.

Neither does Calcutta recruit its Hindoo population from the surrounding country, or Bengal. There is a constant influx of the worshippers of Brahma from Behar and Hindoostan, drawn thither in the train of commerce; these form no inconsiderable portion of the Hindoo community; there is also a constant accession to the city population of Hindoo inhabitants, natives of Bengal, both from the inland towns and villages of Bengal, candidates for public employment, or suitors for domestic service.

But by far the largest portion of the population is composed of the indigenous inhabitants of the city, forming the bulk of the native community. These are engaged in the different departments of trade and commerce; they are the occupiers of bazaar-stalls and workshops;

numbers of the higher castes find occupation in the public offices, or at the desks of merchants, and many of the lower castes as menials to the other classes already enumerated.

It has been computed that the amount of daily addition to the city is at least 175,000, and is roughly estimated at double that above mentioned, or equal to 200,000.

The next class of importance in point of numbers, is the Europeans and their descendants; the former chiefly from the parent country, the United Kingdom, a large proportion of them being the covenanted servants of the Company; the number of them is but small even after the lapse of a century, and does not exceed 3,000. This is of easy explanation, if we regard their migratory character, their pursuits, the object of their residence, and the effects of a climate hostile to these exotic races.

The ever-varying European population of the Eastern capital regard their residence in Calcutta but as temporary, and form but an integral portion of its inhabitants for as short a period as possible, their object being wealth: when that is attained, they return to Europe, their pursuits being commercial or departmental, which in general are lucrative, so much so as to enable them to retire early, or after a short stay in Calcutta; others again are compelled by the deleterious influence of the climate to seek a more salubrious residence. The number of Europeans whose departure is compulsory, is not inconsiderable, and accounts for their small proportion to the Indian races or Asiatic residents.

There is another and very influential cause for the disproportion of the European and native portion of the inhabitants of Calcutta, in the restriction to the increase of the European population in India. It has been stated that the unmixed European race cannot survive to the third degree in the East. A similar fatality does not affect the children of the mixed race, the descendants of Europeans and natives; they survive, but become dwarfish and effeminate. By intermarriage, they greatly deteriorate in mental and physical powers, and possess not in the first remove from their parent stock, the strength or make of either race; they partake more in colour and constitution with their native mother, Hindoo or Musselmanee. Whether this conformation or constitution is dependent on the sex of the parent it is difficult to determine, as there are too few instances of the offspring of a mixed race of native father by European mother, to enable us to institute a comparison with the view of determining this point. This class, or the issue of European and native, has been designated Eurasians, in preference to the invidious and objectionable term of half-castes; their number is considerable.

Next in point of numbers to the English and their descendants are the Portuguese, whose number is 3,181. They were the first European adventurers who colonised Bengal. However numerous they may have been in other parts of the Indian continent, it does not appear that their numbers were actually greater at any time than they are now. It must be remembered that the portion of the population under this name are the descendants of Portuguese; very few of them are of pure and unmixed Portuguese origin, and born in the parent country; they are not now an imported or exotic race.

Of the Portuguese population, some are distinguished by their great opulence acquired in commerce. They do not associate with other sections of the inhabitants of Calcutta, being held in unmerited contempt by the other classes of this motley population; they are equally contemned by their European and Asiatic fellow-citizens. Of all the European nations, the Portuguese have amalgamated most with the natives of India, and their offspring born in the country thrive better than the issue of any other Europeans, but these have much degenerated from the followers of Vasco de Gama and Albuquerque.

The Armenians form a small section of the population, not exceeding 636. On the establishment of Calcutta in 1689, the Armenians accepted the invitation which had been given to them in common with the Portuguese, by the founder of the ancient colony, to settle and place themselves under the protection of the English, and were permitted to build a temporary church and consecrate a burial-ground. To render this connexion more intimate and durable, the Armenians received considerable encouragement, and privileges conferred on them by charter, given under the Company's seal, and bearing date June 22nd, 1688.

The few French residents are European merchants and their families and dependents, and in general make a temporary residence in Calcutta. The greater number of that nation in Bengal reside at their settlement at Chandernagore, or in the provinces, engaged in the cultivation of indigo.

The Chinese inhabitants of Calcutta are handicraftsmen, as shoemakers, carpenters, joiners, &c., in which their superiority over the natives, or Hindoos, insures them ample profits and employment; though not very abstemious, they are very industrious.

In 1837 an estimate was made with great care (one regarded as a very accurate return) of the population of Calcutta, by the assessors of house-tax, and furnished to Captain Birch, the Superintendent of Police. Its results are as follows:—

English	3,138
Eurasians, or the offspring of the European and Asiatic	4,746
Portuguese	3,181
French	160
Chinamen	362
Armenians	636
Jews	307
Western Mahomedans	13,677
Bengal Mahomedans	45,067
Western Hindoos	17,333
Bengal Hindoos	120,318
Moguls	527
Parsees	40
Arabs	351
Mugs	683
Madrassees	55
Native Christians	49
Low Castes	19,084
	229,714
The population of the suburbs said to be	200,000
Making a total of	429,714

By means of the same agents, and with the same care and supervision, another and the latest census was made in 1843, when it was found that the native population was somewhat less than in 1837.

There are two peculiarities in the character of the population of Calcutta.

There is a great excess of adults, and the population is stationary.

Strangers are always struck with the paucity of children and the small number of old men to be seen in the streets and about the houses of Calcutta. This peculiarity is referrible to the floating and migratory character of the people. It has been already stated that a great majority of the Hindoo day-labourers have their homesteads in the surrounding villages, and on the opposite side of the river, which they leave in the morning and return to at sunset. The other characteristic is ascertained by the comparison of the latest returns of 1837 and 1843, and this also is to be explained by a reference to the habits of a large portion of the inhabitants of the town.

In the absence of an office registry of deaths, recourse has been had to the agency of the native Superintendents of Police, styled Thannadars, who have under their control a numerous body of subordinate police, peons, or constables. These officials or Thannadars being brought up in connexion with the department, and selected from the general body, on account of their good character, activity, and intelligence, are in general well acquainted with the circumstances, social and domestic, of the inhabitants residing under their daily observation, and within their districts or stations.

They possess accordingly pretty accurate information relating to the actual amount of the living population in their neighbourhood or sub-division of the city, the proportion of the sexes, the number of children, and the occurrence of births and deaths in families.

The accuracy of their information, in reference to native deaths, it is believed may be relied upon, since the nature of the climate compels the almost immediate removal of the corpse from their dwellings, and of the miserable and indigent, who die in the streets and bye-ways, the police alone take any cognizance.

The only registry of native funerals is that kept by the police authorities at the different Ghauts and Ghoristans, where only the funeral rites of cremation and sepulture of the Hindoo and Musselman sections of the community are permitted.

This system of Registry has been in existence since 1802, the date of its introduction by one of the present magistrates of the city, Mr. Blacquiere.

The original records are written in Bengalee, and state in tabular detail, the name, age, sex, caste, residence, occupation, disease, duration of sickness, &c., of the deceased.

The translated official copies of these reports enumerate, however, only the actual number of bodies "burnt" or "floated" at the Ghauts, or buried in the Ghoristans, and are curtailed of much of the valuable information contained in the original documents; for instance, the mortal diseases are roughly classed under three heads, viz., cholera, supposed to be the chief scourge of the population, small-pox, said to be the second, and miscellaneous diseases include the residue. This is the more to be regretted, as no care is bestowed on the preservation

of the original records, and the tabular statements of mortality published to the world are taken from the curtailed translations.

The latest attempt to form an estimate of the mortality of the capital of Bengal has been made by Mr. Martin, in his topography of the city, first published in India, in 1837, and subsequently incorporated in the joint production of Drs. Johnson and Martin on "Tropical Climates," to which work I am indebted for the following tabular statements.

They were found among the stores amassed by the labours of the Municipal Committee, a most zealous, intelligent, and indefatigable body, whose Report contains a vast fund of information on the vital statistics of Calcutta.

Mortality among all Classes for 20 *Years. For Natives* 5 *Years.*

Years.	Protestant Burials.	Catholic ditto, D. Rozario.	Catholic ditto, Boitakhana.	Greeks.	Armenians.	Indo-Armenians.	Native Christians.	Mahomedans.	Hindoos.	Native Deaths in 5 Years.
1817....	216	313	169	4	10	3	....	....	....	....
1818....	272	211	159	2	20	3	....	....	....	....
1819....	275	284	158	....	23	3	....	....	....	....
1820....	281	282	136	....	17	1	....	....	....	....
1821....	246	277	172	....	16	3	....	....	....	....
1822....	324	294	140	....	16	2	....	....	....	....
1823....	270	277	156	....	10	2	....	....	....	....
1824....	278	282	188	....	21	1	....	....	....	....
1825....	297	285	154	1	12	10	....	....	....	....
1826....	275	309	145	2	19	17	....	....	....	....
1827....	254 + 11	308	174	....	15	16	4	....	....	....
1828....	256 + 19	250	170	2	15	12	3	....	....	....
1829....	184 + 21	209	146	3	12	16	2	....	....	....
1830....	224 + 26	236	138	1	14	15	....	....	....	....
1831....	186 + 29	236	122	3	17	19	8	....	....	....
1832 ...	217 + 25	269	121	1	17	16	1	1,009	8,299	9,308
1833....	302 + 30	288	204	2	23	14	5	2,385	15,138	17,523
1834....	281 + 35	257	199	2	16	17	4	1,900	11,167	13,067
1835....	233 + 18	233	115	1	7	16	4	1,229	6,873	8,102
1836....	197 + 26	188	104	....	15	13	3	1,515	6,366	7,801
	5,068 + 240	5,288	3,070	24	315	199	34	....	....	55,881
	20 10	20	20	12	20	20	9			5
	253 + 24	264	153	2	$15\frac{3}{4}$	10	$3\frac{1}{8}$			11,176

Scotch burying ground opened in 1826.

Statement of the Average Rate of Mortality per Cent. among the Different Classes of Inhabitants in Calcutta, per Census and Table of Mortality.

Denominations.	Number of Inhabitants.	Total.	Average Mortality, per Annum.	Average Mortality, per Cent.
English	3,138			
Eurasians	4,746	7,884	277	$3\frac{1}{2}$ / 1 in 28
Portuguese	3,181			
French	160	3,341	417	$12\frac{1}{2}$ / 1 in 8
Western Mahomedans	13,677			
Bengal Mahomedans	45,067			
Moguls	527			
Arabs	351	59,622	1,607	$2\frac{3}{4}$ / 1 in 36
Western Hindoos	17,333			
Bengal Hindoos	120,318			
Mugs	683			
Low Castes	19,084	157,418	9,558	$6\frac{1}{12}$
Armenians	....	636	$25\frac{3}{4}$	$4\frac{1}{21}$
Native Christians	....	49	$3\frac{1}{2}$	$6\frac{3}{4}$
Chinese	....	362		
Jews	....	307		
Parsees	....	40		
Madrassees	....	55		

The first product of this tabular statement, exhibits a striking difference of mortality of the English and Eurasians, and the Portuguese. While the mortality of the first is but $3\frac{1}{2}$ per cent. or 1 in 28, that of the latter is as high as $12\frac{1}{2}$ per cent. or 1 in 8.

It is accounted for from the difference in social condition of the Portuguese: they are a suffering race, subject to the endemic diseases of Bengal, while the English and Eurasians are in far more easy and prosperous circumstances, better housed, fed, and clad, and enjoy comfort and happiness in a very high degree compared with the Portuguese or their descendants.

The vast difference of mortality among the Hindoos and Mahomedans is equally striking. While the ratio of death is as $2\frac{3}{4}$ per cent., or 1 in 36, of the Musselmans, it is as high as $6\frac{1}{12}$, or 1 in 16, in the Hindoo section of society. It has been attributed to the greater proportion of infant life among the Hindoos. The same circumstance ought also to be taken into account, or be added to those already mentioned as influencing the rate of mortality among the Portuguese, and will assist in explaining the surprising difference in the average mortality between that nation and other portions of the foreign races residing in Calcutta.

It will be seen that there was, in all classes of the population, a considerable increase of deaths in the years 1833-1834. This great increase of mortality is referrible to the great inundation, which took place in October, 1833, which submerged the suburbs to the south and east, and encroached upon the streets of the city. Its subsidence was followed by a severe pestilence, in the form of a remittent fever, which

proved fatal both to Europeans and natives, during that and the following year.

The lesser mortality exhibited in the tables show that it had ceased to have a prejudicial effect on the general health of European and native portion of the population.

The mortality among the other sections of society, the Catholic, Greek, Armenian, Indo-Armenian, and native Christian, for the period of 20 years, is believed to afford accurate results.

The Chinese and Jews keep no account of their burials, and consequently there is no method of ascertaining the proportion of deaths among them; this is of little consequence, as they form but a fractional portion of the population of Calcutta.

From the most recent investigation into the general mortality of the population of Calcutta, exclusive of the suburban population, including a period of 12 years, that is, from 1832 to 1843 inclusive, it was found that the total number of deaths has been 132,551, that is, 11,045 per annum, or 5·11 per cent.

The average annual mortality among the Hindoos is 8,862, or about 5·6 per cent.; that of Mahomedans, 2,183, or exactly 3·7 per cent.

The entire native population, at this rate of mortality, may thus be said to undergo extinction and renewal once in 20 years.

A more satisfactory statement, in reference to the European residents, is made by Mr. James Prinsep. In 1830 he ascertained, and published in the Gleanings of Science, the burials in Calcutta of Protestant Christians from 1820, to show at that time that, although the European population must have greatly increased, yet the deaths had not augmented; and now that the same population is acknowledged to have increased very materially, yet there has not been, during the last 20 years, any increase in Protestant burials.

For the purpose of remedying and wiping away the reproach to which the insufficiency of medical relief to the numerous indigent inhabitants exposed the more wealthy residents of Calcutta, and collect statistical information regarding their sanitary condition, the Government, in 1837, appointed a Committee to make inquiries into the causes and prevalence of disease, and to report upon the expediency and utility of erecting a fever hospital in Calcutta.

The Report of this Committee was published in Calcutta *in extenso*, and affords ample details in reference to the drainage, ventilation, supply of water, and other matters affecting the health of the population of Calcutta, and contains the only evidence procurable in reference to the number of sick, the extent and mortality of the most prevalent diseases.

The Committee was composed of Europeans and natives of the greatest intelligence and rank in the community, who took an interest in the objects of their appointment, and executed their commission with great zeal and ability. Desirous of rendering their Report as complete as possible, and of acquiring full and accurate information on the several subjects subordinate to their commission, the Committee subdivided themselves into sub-committees, and, under the sanction and permission of Government, obtained the co-operation of those most capable of aiding them in their inquiries. The Report of this Committee is the collected evidence of some of the most intelligent engineer and medical officers resident in Calcutta, or in the Service.

From this Report I propose to extract the evidence bearing upon the subject of the present inquiry, the causes of sickness and mortality of the capital of British India.

There is no city in the world which contains within itself more numerous or deleterious agents prejudicial to the health and life of the inhabitants, than Calcutta.

The extreme insalubrity of Calcutta in the earlier period of its occupancy by Europeans is proved by the statement of Captain Hamilton, who affirms that in one year there were 1,200 English, inclusive of military servants of the Company, private merchants, and seamen, and before the beginning of January of the succeeding year there were 460 burials. In more recent times it was the custom of the European inhabitants to meet on the 15th of November of each year to congratulate each other on their escape from the annual mortality.

The Committee refer in their Report to the present condition of that portion of the city inhabited by Europeans, in strong contrast with the former state, to prove what may be done to render one of the worst known localities habitable; and to the native part of the town, in proof that Captain Hamilton's picture of the insalubrity of Calcutta was not overcharged.

There has been considerable improvement in the state of the general health since the period referred to, and the representation of the danger to the health and life of Europeans is no longer applicable to this division of the community, yet the prevalence of disease among the lower classes is very striking.

This important change in the sanitary condition of the population is attributable to the clearing away of the jungle, and other precautionary measures; and with greater attention and activity in taking and following out these, there is ample ground for hoping that the health of the city may be very much ameliorated.

The most prevalent diseases among the inhabitants of Calcutta, and the most fatal, are bilious or continuous remittent and intermittent fevers, enlargement of the spleen, diarrhœa, dysentery, dyspepsia, small-pox, and cholera.

Of these the bilious and remittent fevers are very fatal, and always dangerous; and the intermittent, though not immediately accompanied by risk or danger to life, is not less destructive by inducing enlargement of the spleen, diarrhœa, dysentery, and dropsy.

Of the consequences of intermittent fever the most fatal complication, and which may be viewed as an endemic of Bengal, viz., enlargement of the spleen, is most common and most fatal. A very large portion of the native population is subject to this form of disease, which in its turn renders them more prone to recurrence of agueish attacks on any irregularity in diet, or exposure to the weather. This enlargement of the spleen is either rapidly fatal by its complication with diarrhœa or dysenteric purging, or more slowly and progressively, but surely destructive, by inducing anasarca or dropsy. Another frequent consequence of intermittent fever is dyspepsia, often consecutive or contemporary with enlargement of the spleen. Dyspepsia is often to be met with as a primary disease; so common is this form of complaint, that it has been stated "that nearly two-thirds of the native population in Calcutta are subject to dyspepsia."

Though this is not a fatal disorder, as it is productive of general debility, it predisposes to other forms of disease, and none more frequently than to fever and its sequences, diarrhœa and dysentery.

A very large proportion of the population of Calcutta are subject to rheumatism. This malady is very general throughout India, both in the lower and upper provinces, and among all classes. It annually incapacitates a large number of the native army; more men are invalided for this form of disease than from any other. It may be conceived that rheumatism, a disease occasioned by repressed perspiration, was a disorder of temperate regions or high latitudes, where atmospheric changes are great and sudden, but the inhabitants of Bengal are very prone to this disorder from a variety of causes independent of of atmospheric vicissitudes. Of these the most influential are insufficiency of clothing, and the universal custom of bathing during the whole year, and at all seasons, common to the Hindoos. On the banks of the river, at sunrise, during the year, crowds of both sexes, and all ages, may be seen performing their daily ablutions in conformity to general usage, or in obedience to Brahminical prescription, in the cold as well as hot season, shivering in the muddy stream, or wending their way home with dripping garments, which they permit to dry upon them—a practice than which nothing is more calculated to induce rheumatic disease—especially in subjects whose cuticular discharge is larger and perspiratory process more active than in the natives of colder regions or higher latitudes. Accordingly, as has been stated, rheumatism is very common among them, incapacitating a very large portion of the labouring classes from following their usual avocations, or earning their daily bread.

Insufficient clothing is another very obvious cause of susceptibility to rheumatic disease among the lower classes of natives. From usage and indigence they make little or no change in their clothing throughout the year: it consists of light white cotton cloth for the men, and the same material, dyed of various hues, for the women; this clothing, however appropriate for the hot, is insufficient for the rainy and cold seasons. This inadequate protection of the person from the changes of the season and weather is a very general source of the frequency of more fatal complaints, as diarrhœa and dysentery, which annually sweep off numbers of the population of Bengal. The severity of the cold in Hindostan obliges the inhabitants to make a more seasonable addition to their clothing during the rainy and cold seasons, and to substitute the blanket or padded cotton dresses for the lighter covering of the hot months, a custom which will explain the greater immunity from rheumatic diseases enjoyed by the natives of the upper over the inhabitants of the lower provinces of India.

The town of Calcutta is, for the purposes of police superintendence, partitioned into four nominal divisions; each division is further subdivided into small police stations, called Thannahs, of which there are altogether about thirty-six. This explanation is necessary to understand the estimate of the extent of sickness and mortality computed by one of the most intelligent witnesses examined by the members of the Municipal Committee, and which is adduced as the most accurate obtainable. The extent of sickness among the native population of Calcutta, including Bengalees, Mahomedans, Hindus-

tanees, and Eurasians, is estimated by the intelligent native practitioner above alluded to, to be during the most unhealthy seasons of the year—that is, from August to November—at 500 in each Thannah, or a total of 18,000 of the population of the city. This estimate, though formed on the mere personal computation and experience of Muddoosoodeen Gupto, a native resident practitioner, possessing the confidence of Europeans in his trustworthiness, and enjoying a high professional reputation and practice among his countrymen, is confirmed by Mr. Martin, whose opinion, from his position as surgeon to the native hospital, and large practice among the better classes of natives, is entitled to great weight. Mr. Martin believes this estimate, large as it is, understates the actual existence or prevalence of disease, even during the most healthy seasons of the year, and consequently greatly underrates it during the most unhealthy. He further states that, though conjectural, it is probably as close an approximation to accuracy as is attainable in the absence of all statistical records.

This estimate is also confirmed by the opinions of other professional men having the largest practical experience of the extent of disease among the native residents of Calcutta, who, though unable to offer precise grounds for their opinion, do not believe the above estimate exaggerated.

Of the great prevalence of disease among the natives, one of the most startling facts in reference to the condition of the younger part of the community is deposed to by Muddoosoodeen Gupto, "that he does not see in the town of Calcutta any children that are in perfect health." This statement is too inconsiderately made, but serves to show how general disease must be among this class of the people, when a statement declaring all the children of a population to be diseased is made by so respectable a witness, and recorded by the members of the Committee. It derives some countenance, however, from the testimony of the late Mr. Reid, a gentleman in charge of one of the dispensaries for affording medical relief to the natives, who states that one-fourth of native children are affected with one form of disease, viz., enlargement of the spleen, the sequela of intermittent fever.

The year in India, as is known, is divided into the rainy, cold, and hot seasons, each including four months: the first July, August, September, and October; the second comprehending November, December, January, and February; while the remaining four months are grouped together under the hot season. It has been observed that the occurrence and subsidence of disease does not follow this division of the year; that August, September, October, and November, are considered the most unhealthy months, during which bilious, remittent, intermittent fevers, and dysentery prevail; that during the succeeding four months, including the cold or drying season, intermittent fevers, both primary and secondary, enlargements of the spleen and liver diseases, diarrhœa, dropsy, and various forms of dyspepsia, are common; that the hot season and beginning of the rainy, from March inclusive to August, is considered the most healthy, from the comparative absence of remittent and intermittent fevers and dysentery, though the last sometimes prevails in a severe form, and cholera and eruptive diseases, as small and chicken-pox, occasion the sickness and mortality of this portion of the year. The extent and severity of the diseases of the hot

season vary much, and are dependent upon the character of the season—the degree of heat, the seasonable setting in of the rains, and the quantity or fall of rain.

From the evidence contained in the Report of the Committee on the Fever Hospital, and municipal inquiry, it appears that fevers, including the idiopathic, bilious, remittent, and intermittent, occasion one-half the mortality either immediate or consequential.

Of the proportion of those who are attacked by the several severe forms of sickness enumerated above, it is calculated that 20 per cent. die during the rainy season, or most unhealthy months; that 5 per cent. more die in the four subsequent months, or cold season; and that of a large part of those that survive, very many have affections of the liver and spleen, the sure and certain causes of future, and not distant dissolution.

Among the poor, remittent and bilious fevers are very destructive: it is calculated that of this class one-fourth die, one-fourth recover, and one-half subside into intermittents, laying the foundation of future attacks, or leaving the sequelæ of this form of disease.

Small-pox and cholera prevail epidemically, and occasion no inconsiderable portion of the mortality among the population.

We have not any report of epidemic small-pox, prior to the history of the last epidemic of 1844, published by Government, and drawn up by Dr. Duncan Stewart, the present Superintendent of Vaccine Inoculation in Calcutta. We learn from it that the previous epidemics occurred in 1796, 1832-33, and 1837-38. The only notice we possess of that of 1796 is, that it has rendered its visitation memorable from its extreme fatality; and the information we have of the succeeding epidemics of 1832-33 and 1837-38, is collected from the registers of funerals, kept at the Ghauts and Ghoristans, and exhibited in the form of tabular statements of the numbers who fell victims during their prevalence; these tables afford the means of judging of their severity and fatality in relation to each other, and of their comparative fatality with other mortal diseases.

An abstract of the numbers of those who fell victims to the three last epidemic visitations of small-pox, were as follows. In 1832-33, the numbers of

Mahomedans.	Hindoos.	Total.
483	2,744	3,227

In 1837-8 there died of small-pox—

Mahomedans.	Hindoos.	Total.
161	1,612	1,773

and the numbers of the population carried off by the latest epidemic, that of 1844, were—

Mahomedans.	Hindoos.	Total.
1,239	2,021	3,260

From these tabular statements of the deaths among the natives from small-pox, it will be seen that the mortality from the last epidemic has been greater than the two preceding, and it is regarded as the most fatal recurrence of this exterminating disease since that of 1796, already mentioned as having left a deep impression of its fatality.

Another inference is unavoidable from a glance at this comparative

statement, remembering the stationary state of the population of the city, from 1832 to the present year, that the natives still pertinaciously hold aloof from the proffered boon of vaccine protection.

The general practice of vaccine inoculation among the European portion of the community, confers on them a considerable protection, though not complete immunity, from variolous infection. It is recorded that 240 Christians died by the latest epidemic, though of these it is not stated what proportion were Europeans or natives, or of these, if any, how many had been vaccinated. It is stated in other evidence, collected by Dr. Stewart, that the disease was severe and even fatal, in Europeans and Eurasians, who had been previously vaccinated in infancy.

Cholera, though it prevails epidemically, may be considered as an endemic in Bengal. Cases occur in every month of the year in Calcutta, both among the European and native residents, and at the change of the seasons, from the rainy to the cold, and from the cold to the hot months; at these periods there is the greatest range in the diurnal temperature, between the heat of midday and the cold of midnight. This is a very dangerous period for immigrants from Europe or the Provinces, numbers of whom annually fall victims to this desolating scourge.

When cholera occurs epidemically, it does so during the hottest period of the year, including the months of March, April and May. A few cases are met with about the middle of March; they increase in the next month, and attain their limit in May, and gradually become less frequent at the approach of the rainy season; and as the rains set in, the epidemic subsides and disappears, until the return of the hot season.

It is found from tabular statements, published by Mr. Martin, that the fatality of cholera is in direct ratio to the prevalence of heat, a fact that was previously unobserved. From the second of these tables it is seen that the deaths of Europeans from this scourge was more numerous in the month of May, than the aggregate deaths by cholera of all the other months, excluding those immediately preceding it, viz., March and April.

Table of Deaths by Cholera amongst the Native Inhabitants of Calcutta for Seven Years, from 1832 *to* 1838 *inclusive.*

	Hindoos.	Mahomedans.	Total.
In 7 Januarys	572	124	696
,, 7 Februarys	620	196	816
,, 7 Marches.....	1,873	439	2,312
,, 7 Aprils.....	2,707	482	3,189
,, 7 Mays	2,170	464	2,634
,, 7 Junes.....	615	217	832
,, 7 Julys	914	133	1,047
,, 7 Augusts	806	146	952
,, 7 Septembers	785	121	906
,, 7 Octobers	1,030	198	1,228
,, 7 Novembers	1,687	230	1,917
,, 7 Decembers.....	1,425	161	1,586
Total.....	15,204	2,911	18,115

Table of Admissions and Deaths from Cholera in each Month during 12 *Years within the Presidency General Hospital, Calcutta.*

	Total Admissions.	Total Deaths.
In 12 Januarys	28	11
,, 12 Februarys	8	5
,, 12 Marches	56	34
,, 12 Aprils	86	57
,, 12 Mays	268	125
,, 12 Junes	138	38
,, 12 Julys	32	6
,, 12 Augusts	37	18
,, 12 Septembers	10	5
,, 12 Octobers	49	27
,, 12 Novembers	59	32
,, 12 Decembers	32	14
Grand Total	803	372

This table is confirmatory of Mr. Martin's observation that cholera is progressive from the middle of March to June; and further shows that while the proportion between the Hindoo and Mahomedan population is but as $2\frac{1}{2}$ to 1, yet the ratio of mortality among the Hindoos is to the Mahomedans as $5\frac{1}{2}$ to 1.

With the view of ascertaining the comparative fatality of all diseases among the natives of Calcutta, Dr. Duncan Stewart procured translations of a large mass of the native records of funerals, kept at the Ghauts, so as to complete a total of 20,000 deaths.

This table was published in the Journal of the Calcutta Medical and Physical Society, but, as connected with the Statistics of Calcutta, is introduced here.

Abstract of Table showing the Cause of Death in 20,000 *cases of Hindoo Mortality within the Town of Calcutta in the Years* 1834, 35, 36, 37, 38, *translated and calculated from the Records of the Ghauts, or Funeral Stations on the Hooghly.*

Fevers.	Diseases of Digestive Organs.	Diseases of Pulmonary Organs.	Diseases of Nervous System.	Diseases of General System.	Accidents and Anomalous Diseases.	Total of each Sex.		Cholera.	Childbed.
						Males.	Females.		
Simple Intermittent Typhus Eruptive	Diarrhœa Dysentery Colic Diseases of Rectum ,, Liver ,, Spleen	Cough Asthma	Paralysis Epilepsy Tetanus	Rheumatism Gout Diabetes Dropsy Syphilis Leprosy	Death by Hanging, Drowning, Falling, Snake Bite &c.			Included in Diseases of Digestive Organs.	Included under head of Accidents, &c.
6,160	6,044	792	233	361	309	12,347	7,653	4,773	1,328
						Total 20,000			

To prevent misconception regarding the number included under Deaths from "Childbed," an explanation is necessary. The casualties under this head include the deaths of children who have died within the month. Of the whole deaths under this head, 1,328, there are not less than 1,240 deaths of infants enumerated, and the actual mortality from Childbirth is not greater than 88.

MISCELLANEOUS.

Return of the Trades or Callings of the Emigrants who arrived at the Ports of Quebec and Montreal during the Year 1849.

Bakers	21	Brought forward	767
Butchers	16	Painters	4
Bricklayers and Stonemasons	82	Plasterers	5
Black and Whitesmiths	110	Printers	8
Boot and Shoemakers	114	Quarrymen	3
Braziers, Tinsmiths, &c.	8	Ship-builders	1
Cabinet-makers	12	Sawyers	12
Carpenters and Joiners	146	Sail-makers	4
Coopers	16	Saddlers	3
Coach-makers	3	Stone-cutters	7
Cart and Wheelwrights	23	Tailors	92
Curriers	2	Watch-makers	1
Dyers	1	Unenumerated Callings	185
Drapers	15	Male Servants	78
Engineers	26	Farmers & Agricultural Labourers	6,264
Gardeners	15	Common Labourers	6,388
Hatters	3		13,822
Millers and Millwrights	26	Deaths of Male Adults at Sea 212	
Miners	113	Ditto ditto in Quarantine 70	
Moulders	5		282
Paper-makers	10		
Carried forward	767	Total	13,540

PROCEEDINGS OF THE STATISTICAL SOCIETY OF LONDON.

Fourth Ordinary Meeting, 1849-50. *Monday*, 18*th Feb.*, 1850.

Lieut.-Colonel W. H. Sykes, F.R.S., Vice-President, in the Chair.

The following Gentlemen were elected Fellows:—

J. A. Higham, Esq. | John Cooke, Esq.

The following Paper was read:—

On the Agriculture, Commerce, Manufactures, &c., of China. By Dr. Gutzlaff.

Fifth Ordinary Meeting, 1849-50. *Monday*, 18*th March*, 1850.

The Right Hon. The Earl of Harrowby, President, in the Chair.

The following Gentlemen were elected Fellows:—

J. C. Williams, Esq. | W. H. Smith, Esq.

C. Ryley, Esq.

The following Papers were read:—

On the Police of the Metropolis, and its use in the Repression of Juvenile Crime. By Joseph Fletcher, Esq.

On the Amount of Money Expended on Public Works in India, from 1835-6 to 1845-6. By Lieut.-Col. Sykes.

Sixth Ordinary Meeting, 1849–50. *Monday*, 22*nd April*, 1850.

Sir J. P. Boileau, Bart., Vice-President, in the Chair.

The following Gentlemen were elected Fellows:—

Lord Harry Vane. | R. Thompson Jopling, Esq.

The following Paper was read:—

Statistics of Bills of Exchange, from 1828 to 1847. By William Newmarch, Esq.

THE MARRIAGES, BIRTHS, AND DEATHS,

REGISTERED IN THE DIVISIONS, COUNTIES, AND DISTRICTS OF ENGLAND

AS PUBLISHED BY AUTHORITY OF THE REGISTRAR-GENERAL.

THE following Return comprises the Births and Deaths which were registered in all the districts of England by 2,189 Registrars, in the autumn quarter ending December 31st, 1849; and the Marriages in above 12,000 chapels and churches, 2,869 registered places of worship unconnected with the Established Church, and 623 Superintendent Registrars' Offices, in the quarter ending September 30th, 1849.

The Return of marriages is incomplete; but the numbers wanting are inconsiderable, and have been supplied from the previous years. Returns o the births and deaths have been received from every Registrar.

MARRIAGES.—67,578 persons were married in the quarter which ended on September 30th, 1849. It was the time when the cholera was rife; yet the marriages exceeded in numbers—and even in proportion to the population—the marriages in the corresponding quarters of 1848 and 1847, and in every quarter since the summer of 1838, except the summers of 1839-44-5-6. The excess was chiefly in London, Middlesex, Surrey, Norfolk, Herefordshire, Leicestershire, Nottinghamshire, Derbyshire, Cheshire, Lancashire, the West Riding of Yorkshire, and Cumberland. The marriages were stationary or decreased in Kent, Hampshire, Berkshire, Bedfordshire, Cambridgeshire, Essex, Suffolk, Devonshire, Cornwall, Somersetshire, Gloucestershire, Shropshire, Staffordshire, Warwickshire, Rutlandshire, Lincolnshire, the East Riding of Yorkshire, Durham, Northumberland, and Westmoreland. In the towns and manufacturing districts, the marriages, as a general rule, increased; in the agricultural, coal, and iron districts, they decreased; but the deviation from the average was on neither side considerable. At St. George's, Hanover Square, the marriages were 238, or less than in the same season of 1845-6-7; in the Strand, Holborn, St. Luke, Shoreditch, Bethnal Green, Whitechapel, Bermondsey, and Lambeth districts, the marriages exceeded the average. In Brighton, the marriages (163) were considerably above the average. In Cheltenham, the marriages in the 5 summer quarters of 1845-9 were 112, 99, 90, 90, and 99. In Bristol, Wolverhampton, Liverpool, Leeds, and Hull, which suffered severely from cholera, the marriages were depressed; in Bath and Birmingham, about the average; in Sheffield, Manchester, Stockport, Halifax, and the manufacturing districts of the same class, the marriages were much more numerous than in 1847-8, and indicated the dawn of prosperity. The average rate of marriage in the 11 preceding summer quarters was ·747; in the summer quarter of 1849 it was ·756 per cent.; somewhat, therefore, for the whole country, above the average. Winter and summer are the seasons in which the fewest marriages are celebrated in England.

BIRTHS.—135,481 births were registered in the quarter which ended on December 31st, 1849; the births in the corresponding quarters of 1845-8 were 131,219, 139,349, 127,267, 133,204; so that the proportion of births to the population is 3·022 per cent. in 1849, or greater than in the corresponding quarters of 1847-8; it is less than in the December quarters of 1843-6. The births in the year 1849 were 578,087, which is the greatest number ever returned in one year. The number of births in 1846 was 572,625; in 1847 only 539,965; and in 1848, 563,205. The

estimated proportions to the population in the 6 years 1844-9 were 3·263, 3·236, 3·364, 3·131, 3·223, and 3·264 per cent. The latter proportion is equal to 1 in 31 (or 30·64) of the population; 1 in 15·67 of the female population; and 1 in 7·33 of the women at the ages 15-45. The number of persons of the ages 15 and under 45 in the country was, on July 2, 1849, not more than 3,955,299 men, and 4,238,481 women, showing an excess of 283,182 women of the age 15-45 in England; against which a part of the army, seamen, and fishermen, belonging to England, but absent from the country in the middle of the year, have to be placed.

The births in the metropolitan districts of Surrey, in Liverpool, and in Hull, where cholera was so fatal in the summer quarter, were fewer in the December quarter of 1849, than in the corresponding quarter of 1848.

Births and Deaths: Movement of Population.—The births registered in the last quarter of 1849 were 135,481, the deaths 97,778; so that the natural increase of which there is a record was 37,703. But 46,136 persons emigrated in the quarter from 11 ports at which there are government officers, and 41,845 of the number left the three English ports of Liverpool, London, and Plymouth. All the births in England are not registered, the emigrants of English birth are not distinguished, no account is taken of the immigrants into England, and Scotland and Ireland still remain almost the only parts of the civilized world in which the births and deaths are unregistered, so that the accurate statement, which might otherwise, by proper arrangements, be so easily made, of the movement of the population of the United Kingdom, is impossible. The excess of births over deaths in the year was 578,087 − 441,458 = 136,629.

State of the Public Health.—The deaths in the last quarters of the 5 years 1845-6-7-8-9, were 80,681, 108,937, 103,479, 92,447, 97,778. The rate of mortality in the quarter was 2·181 per cent., slightly in excess of the average rate (2·165) of the 12 December quarters 1838-49. The lowest rate of mortality (1·898) was experienced in the December quarter 1845—the highest (2·529) in the corresponding quarter of 1846.

If we take the complete years, the deaths registered in the 5 years 1845-6-7-8-9, were 349,366, 390,315, 423,304, 400,060, 441,458. The deaths in 1849 exceeded the deaths in 1845 by 92,092. The average annual mortality of the 10 years 1838-47 was 2·213 per cent; of the 12 years 1838-49, 2·243. The annual mortality was lowest (2·080 per cent., or 1 in 48) in the year 1845; highest (2·493, or 1 in 40) in the year 1849. The high rate of mortality set in with an epidemic of what was called diarrhœa and English cholera, in the summer of 1846; it was succeeded by influenza, at the close of 1847 and the beginning of 1848. The Asiatic form of cholera first distinctly showed itself in October, 1848, and raged in many places with great violence in the months of July, August, September, and a part of October, 1849, when it generally subsided.

The returns of the other states of Europe are still so much in arrear, that there are no means of comparing them with those of England; but it is worthy of remark, that the mortality of England in 1849, when cholera was epidemic, scarcely exceeded the mortality of France and Sweden in ordinary years, and was much less than the ordinary mortality of Saxony, Prussia, Italy, Austria, and Russia.

Marriages Registered in the Quarters ending September 30th, 1845-49; Births and Deaths Registered in the Quarters ending December 31st, 1845-49, in the Divisions, Counties, and Districts of England.

Population.		Marriages.		Births.		Deaths.	
		Registered in the Quarter ending the last Day of					
		Sept.,		Dec.,		Dec.,	
		1845....	35,003	1845....	131,219	1845....	80,681
1831.....	13,896,797	1846....	35,070	1846....	139,349	1846....	108,937
		1847....	32,439	1847....	127,267	1847....	103,479
1841.....	15,914,148	1848....	32,984	1848....	133,204	1848....	92,447
Military	29,846	1849....	33,759	1849....	135,481	1849....	97,778

MORTALITY OF THE METROPOLIS.

A Table of the Mortality in the Metropolis, showing the Number of Deaths from all Causes, in the Quarters ending December of the Four Years, 1846–47–48–49.

CAUSES OF DEATH.	Quarters ending Dec.*			
	1846.	1847.	1848.	1849.
ALL CAUSES	13,221	19,605	14,725	12,877
SPECIFIED CAUSES	12,986	19,571	14,679	12,818
I. Zymotic Diseases	2,211	5,525	5,137	3,227
SPORADIC DISEASES.				
II. Dropsy, Cancer, and other Diseases of uncertain or variable Seat	580	629	605	593
III. Tubercular Diseases	2,275	2,630	2,058	2,035
IV. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	1,617	1,742	1,465	1,454
V. Diseases of the Heart and Blood Vessels	572	573	479	466
VI. Diseases of the Lungs and of the other Organs of Respiration	2,568	4,144	2,064	2,133
VII. Diseases of the Stomach, Liver, and other Organs of Digestion	861	964	765	703
VIII. Diseases of the Kidneys, &c.	141	190	141	142
IX. Childbirth, Diseases of the Uterus, &c.	227	222	106	124
X. Rheumatism, Diseases of the Bones, Joints, &c.	125	139	105	98
XI. Diseases of the Skin, Cellular Tissue, &c	27	24	17	25
XII. Malformations	46	52	56	39
XIII. Premature Birth & Debility	301	336	292	293
XIV. Atrophy	255	390	288	339
XV. Age	651	957	527	554
XVI. Sudden†	93	225	162	191
XVII. Violence, Privation, Cold, and Intemperance	436	529	412	402
I. Small Pox	42	372	413	99
Measles	105	881	218	338
Scarlatina	322	747	1,765	486
Hooping Cough	368	426	472	273
Croup	65	116	62	80
Thrush	61	52	48	38
Diarrhœa	331	400	375	482
Dysentery	43	91	74	79
Cholera	15	12	468	494
Influenza	66	1,161	24	49
Purpura and Scurvy	5	17	14	11
Ague	6	12	8	7
Remittent Fever	17	31	30	15
Infantile Fever‡	5	9	12	12
Typhus	619	1,279	883	558
Metria, or Puerperal Fever, see Childbirth	..	..	100	56
Rheumatic Fever, see Rheumatism	..	..	13	20
Erysipelas	106	176	126	109
Syphilis	32	32	32	18
Noma or Canker, see Mortification	3	11	..	3
Hydrophobia	..	..	..	..
II. Hæmorrhage	43	62	42	51
Dropsy	216	248	228	205
Abscess	18	22	27	26
Ulcer	15	18	17	17
Fistula	8	5	2	2
Mortification	47	43	42	36
Cancer	219	214	240	242
Gout	14	17	7	14
III. Scrofula	71	84	92	83
Tabes Mesenterica	177	265	174	165
Phthisis or Consumption	1,685	1,873	1,450	1,473
Hydrocephalus	342	408	342	314
IV. Cephalitis	148	154	115	120
Apoplexy	347	349	336	324
Paralysis	267	307	249	257
Delirium Tremens	42	45	34	29
Chorea	1	1	1	1
Epilepsy	77	90	73	73
Tetanus	5	5	4	5
Insanity	18	26	24	26
Convulsions	548	592	477	473
Disease of Brain, &c.	164	173	152	146
V. Pericarditis	26	27	34	34
Aneurism	16	24	16	20
Disease of Heart	530	522	429	412
VI. Laryngitis	33	71	44	46
Bronchitis	892	1,642	766	805
Pleurisy	43	76	36	24
Pneumonia	1,101	1,743	963	989
Asthma	313	428	146	174
Disease of Lungs, &c	186	184	109	95
VII. Teething	103	141	91	118
Quinsey	14	34	20	24
Gastritis	28	23	26	18
Enteritis	112	135	96	82
Peritonitis	55	86	62	47
Ascites	26	36	28	33
Ulceration (of Intestines, &c.)	36	31	30	33
Hernia	47	48	46	26
Ileus	34	44	28	22
Intussusception	9	10	9	14
Stricture of the Intestine Canal	8	11	11	8
Dis. of Stomach, &c.	101	98	86	78
Disease of Pancreas	3	1	..	..
Hepatitis	50	58	45	29
Jaundice	37	30	36	33
Disease of Liver	194	177	147	133
Disease of Spleen	4	1	4	5
VIII. Nephritis	1	7	2	6
Nephria (or Bright's Disease)	..	..	40	31
Ischuria	1	6	1	2
Diabetes	3	8	13	10
Stone	8	10	4	7
Cystitis	3	9	6	13
Stricture of Urethra	18	15	10	6
Dis. of Kidneys, &c.	107	135	65	67
IX. Paramenia	6	5	5	8
Ovarian Dropsy	7	9	8	14
Childbirth, see Metria	163	170	63	60
Dis. of Uterus, &c.	51	38	30	42
X. Arthritis	3	5	3	1
Rheumatism	67	65	69	56
Disease of Joints, &c.	55	69	33	41
XI. Carbuncle	1	5	4	7
Phlegmon	9	8	5	5
Disease of Skin, &c.	17	11	8	13
XVII. Intemperance	24	28	13	15
Privation	15	12	14	8
Want of Breast Milk, see Privation & Atrophy	..	..	35	37
Neglect	..	..	..	..
Cold, see Privation	..	..	..	1
Poison	397	489	24	20
Burns and Scalds			63	58
Hanging, &c.			22	41
Drowning			68	47
Fractures and Contusions			131	129
Wounds			31	28
Other Violence			11	18
Causes not specified	235	34	46	59

* The mortality of the district of Lewisham, and sub-district of Hampstead, was included in the Metropolitan returns at the commencement of 1847, for the first time. Therefore the deaths for previous years are not contained in the above table. In the quarters ending Dec., they were respectively (1845) 143, (1846) 188.

† Under the head of "sudden deaths" are classed not only deaths described as sudden, of which the cause has not been ascertained or stated; but also all deaths returned by the Coroner in vague terms, such as "found dead," "natural causes," &c., &c.

‡ In the years previous to 1848, "Worms" and "Infantile Fever" were classed together. The former, of very rare occurrence, is now placed to diseases of stomach, &c.

METEOROLOGICAL TABLE for the Quarter ending December 31, 1849.

NAMES OF THE PLACES.	Mean Pressure of Dry Air reduced to the level of the Sea.	Mean Temperature of the Air.	Highest Reading of the Thermometer.	Lowest Reading of the Thermometer.	Mean Daily Range of Temperature.	Mean Monthly Range.	Range of Temperature in the Quarter.	Mean Temperature of the Dew Point.	WIND.		Mean Amount of Cloud.	RAIN.		Mean Weight of Vapour in a Cubic Foot of Air.	Mean additional weight required to saturate a cubic Foot of Air.	Mean Degree of Humidity.	Mean whole Amount of Water in a Vertical Column of Atmosphere.	Mean Weight of a Cubic Foot of Air.	Height of Cistern of the Barometer above the level of the Sea.
									Mean estimated Strength.	General Direction.		Number of Days on which it fell.	Amount collected.						
	In.	°	°	°	°	°	°	°					In.	Gr.	Gr.		Gr.	Gr.	Feet.
Guernsey	29·703	49·2	65·0	33·0	6·1	21·6	32·0	46·1	2·2	S.W.	..	59	16·9	3·8	0·4	0·906	3·6	538	123
Helston	29·637	48·5	69·0	27·0	11·1	28·7	42·0	45·1	1·6	S.W.	6·6	48	13·2	3·7	0·6	0·869	4·4	539	106
Falmouth	..	49·1	68·0	26·0	10·3	28·3	42·0	..	1·4	Var.	6·8	53	11·3	..	..	..	..	..	..
Truro	..	48·0	63·0	26·0	8·3	24·3	37·0	..	0·8	S.	7·2	56	15·0	..	..	..	..	..	..
Torquay	..	48·9	69·0	26·0	8·2	26·7	43·0	42·3	2·1	S.W. & E.	..	45	9·3	3·3	0·9	0·807	3·5	542	120
Exeter	29·738	46·2	68·5	20·0	13·3	36·9	48·5	42·8	1·7	N.	5·4	47	8·6	3·4	0·5	0·874	4·1	542	140
Chichester	..	44·3	65·0	15·0	10·3	34·3	50·0	..	..	S.W. & N.W.	..	..	8·4	..	..	..	..	..	..
Southampton	29·701	44·9	64·2	11·0	10·3	38·2	53·2	44·9	0·2	..	5·8	40	12·1	3·2	0·5	0·866	3·9	545	55
Beckington	29·804	43·3	67·0	15·0	13·1	40·0	52·0	40·0	..	S.W., W., & E.	6·4	41	6·3	3·1	0·8	0·766	3·3	543	265
Royal Observatory Greenwich	29·687	44·8	69·7	18·8	12·0	38·0	50·9	40·0	..	S.W. & N.E.	..	49	6·6	3·1	0·5	0·859	3·7	542	159
Maidenstone Hill, Greenwich	29·710	44·4	64·3	18·8	9·1	34·7	45·5	44·4	..	..	6·8	49	6·7	3·1	0·5	0·866	3·7	544	107
Chiswell Street, London	..	47·3	67·0	22·5	9·0	30·2	44·5	39·2	..	S.W.	..	38	5·7	3·0	1·0	0·744	3·6	540	..
St. John's Wood	29·709	44·8	69·0	18·0	13·0	38·3	51·0	41·4	1·7	S.W. & N.E.	8·1	36	4·5	3·3	0·5	0·883	3·7	542	200
Latimer Rectory	29·694	43·6	65·5	17·0	13·1	38·8	48·5	39·6	1·3	N.W.	6·7	44	7·2	3·1	0·5	0·873	3·6	539	335
Aylesbury	29·625	43·5	67·0	18·0	14·0	38·7	49·0	39·3	0·4	S. & N.W.	7·0	41	6·0	3·0	0·5	0·865	3·6	541	280
Stone Observatory	29·643	43·8	66·6	17·0	11·5	38·0	49·6	43·4	1·0	S.W. & N.E.	6·8	43	5·2	3·1	0·4	0·877	3·7	539	320
Hartwell (near Aylesbury)	29·651	43·7	..	17·0	..	..	..	43·7	0·9	..	..	55	7·3	3·2	0·4	0·883	3·8	541	260
Hartwell Rectory	29·651	43·4	65·5	19·0	12·1	41·5	46·5	38·1	0·8	S.W.	4·4	37	..	2·9	0·5	0·846	3·5	541	260
Saffron Walden	..	43·2	65·0	20·0	11·9	36·0	45·0	..	..	S.	..	25	..	..	..	..	..	..	..
Radcliffe Observatory, Oxford	29·745	43·9	..	15·3	..	..	..	41·2	2·0	Var.	7·1	38	4·9	3·2	0·4	0·942	3·8	542	250
Hereford	..	42·2	..	..	..	..	..	..	..	Var.	..	42	8·6	..	..	..	..	..	..
Cardington (near Bedford)	29·785	42·8	63·6	20·0	12·3	35·3	43·6	40·6	..	Var.	6·8	47	5·9	3·2	0·4	0·909	3·8	545	200
Norwich	29·638	43·5	63·0	21·0	10·1	32·0	42·0	40·0	..	S.W.	6·9	44	9·2	3·1	0·5	0·873	3·7	544	39
Holkham	29·652	43·4	65·0	18·3	10·9	34·6	46·7	38·4	0·9	S.W.	7·0	62	9·5	2·9	0·6	0·835	3·5	546	31
Derby	..	42·1	64·0	18·0	11·6	35·7	46·0	37·5	..	..	..	56	9·3	2·8	0·7	0·827	3·3	544	..
Highfield House, Notts	29·628	40·8	69·0	17·5	14·4	38·3	51·5	38·3	0·8	S.W., N.W., N.E.	6·5	60	8·4	2·8	1·0	0·827	3·5	544	103
Manchester	29·666	43·5	..	..	..	..	..	40·0	..	..	..	..	..	3·2	0·3	0·902	3·7	541	110
Liverpool Observatory	29·658	44·5	64·8	22·8	7·5	29·5	42·0	38·7	1·2	S.E.	6·0	..	10·4	3·0	0·5	0·855	3·6	544	37
Wakefield Prison	29·680	42·5	67·5	20·0	12·5	37·2	47·5	37·6	..	S.W.	..	64	8·7	2·8	0·6	0·832	3·4	545	113
Stourton Lodge (near Leeds)	29·701	41·8	64·0	20·0	11·7	34·0	44·0	39·5	1·4	..	7·8	57	10·7	3·0	0·3	0·932	3·6	545	148
Stonyhurst Observatory	29·693	41·8	66·0	20·9	11·9	35·1	45·1	37·5	1·1	S.W. & N.E.	6·7	48	13·9	2·8	0·4	0·852	3·4	540	381
Whitehaven	29·574	43·9	64·0	25·0	6·6	28·3	39·0	40·7	3·1	S.W.	..	56	12·7	3·2	0·5	0·892	3·8	542	80
Durham	29·655	41·6	62·1	19·8	9·2	31·3	42·3	38·3	1·3	..	5·9	50	..	2·9	0·4	0·853	3·5	540	347
Newcastle	29·648	42·7	65·5	23·0	10·7	30·8	42·5	38·9	..	S.E. & N.W.	..	41	7·9	3·0	0·5	0·834	3·5	544	121
Number of Columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

NOTES ON THE METEOROLOGICAL TABLE FOR THE QUARTER ENDING DECEMBER 31, 1849.

The mean of the numbers in the first column is 29·680 inches, and this value may be considered as the pressure of dry air for England during the quarter ending December 31, 1849.

The mean of the numbers in the second column, for Guernsey, and those places situated in the counties of Cornwall and Devonshire, is 48°3; at Liverpool and Whitehaven, is 44°2; for those places situated south of latitude of 52°, including Chichester and Hartwell, is 44°3; for those places situated between the latitudes of 52° and 53°, including Saffron Walden and Holkham, is 43°2; for those places situated between the latitudes of 53° and 54°, including Derby and Stonyhurst, is 42°1; and for Durham and Newcastle, is 44°2. These values may be considered as those of the mean temperature of the air for those parallels of latitude during the quarter ending December 31, 1849.

The average daily range of temperature in Cornwall and Devonshire was 9°5; at Liverpool and Whitehaven was 7°0; south of latitude 52° was 11°6; between the latitudes of 52° and 53° was 11°4; between the latitudes of 53° and 54° was 11°6; and north of 54° was 10°0.

The greatest mean daily ranges of the temperature of the air took place at Nottingham, Aylesbury, Exeter, Beckington, and Latimer; and the least occurred at Guernsey, Whitehaven, Liverpool, and Torquay.

The highest temperature of the air was about 69° at several places; the lowest readings were 11° at Southampton, 15° at Beckington and Chichester, and 15°3 at Oxford. The extreme range of temperature of the air during the quarter in England was therefore about 58°.

The average quarterly range of the reading of the thermometer in Cornwall and Devonshire was 40°7; at Liverpool and Whitehaven was 48°5; south of latitude 52° was 49°2; and north of this parallel was 45°1.

The mean temperature of the dew point in Cornwall and Devonshire was 44°1; south of latitude 52° was 41°3; between the latitudes 52° and 53° was 40°1; and north of 53° was 38°7.

The amount of cloud was such as to cover about three-fourths of the sky nearly.

Rain has fallen on the greatest number of days at Wakefield, Holkham, Nottingham, and Guernsey; the average number at these places was 61. It fell on the least number of days at Saffron Walden, St. John's Wood, Hartwell Rectory, and Oxford, and the average number at these places was 34. The stations at which the largest falls have taken place are Guernsey, Stonyhurst, Helston, and Southampton. The smallest falls occurred at St. John's Wood, Oxford, Stone, and London. The average fall in Guernsey, Cornwall, and Devonshire, was 12·4 inches; south of latitude 52° was 6·9 inches; between the latitudes of 52° and 53° was 7·6 inches; between 53° and 54° was 10·2 inches; at Liverpool and Whitehaven was 11·6 inches; and at Newcastle was 7·9 inches.

The numbers in columns 14 to 18 show the mean values of the hygrometrical results, from which we find that—the mean weight of vapour in a cubic foot of air at all places (excepting Cornwall and Devonshire), in the quarter ending December 31, 1849, was 3·0 grains. The mean additional weight required to saturate a cubic foot of air was 0·5 grain. The mean degree of humidity (complete saturation = 1), was 0·857. The mean amount of vapour mixed with the air would have produced water, if all had been precipitated at one time on the surface of the earth, to the depth of 3·6 inches. The mean weight of a cubic foot of air under the mean pressure, temperature, and humidity, was 543 grains, at the average height of 182 feet. And these values for Cornwall and Devonshire were 3·5 grains; 0·6 grain; 0·864, 3·9 inches, and 540 grains at the average height of 122 feet.

REVENUE.

Abstract of the Net Produce of the Revenue of Great Britain in the Years and Quarters ending 5th April, 1849 and 1850; showing the Increase or Decrease thereof.—(*Continued from page* 93.)

Sources of Revenue.	Years ending 5th April.			
	1849.	1850.	Increase.	Decrease.
	£	£	£	£
Customs	19,129,829	18,535,263	....	594,566
Excise	12,650,114	12,792,713	142,599	....
Stamps	6,041,351	6,354,429	313,078	....
Taxes	4,318,903	4,332,979	14,076	....
Property Tax	5,317,244	5,466,248	149,004	....
Post Office	789,000	803,000	14,000	....
Crown Lands	100,000	160,000	60,000	....
Miscellaneous	143,651	198,410	54,759	....
Total Ordinary Revenue	48,490,092	48,643,042	747,516	594,566
China Money	84,284	....	....	84,284
Imprest and other Moneys	665,293	656,855	....	8,438
Repayments of Advances	427,761	553,349	125,588	....
Total Income	49,667,430	49,853,246	873,104	687,288
Deduct Decrease			687,288	
Increase on the Year			185,816	

Sources of Revenue.	Quarters ending 5th April.			
	1849.	1850.	Increase.	Decrease.
	£	£	£	£
Customs	4,593,119	4,432,584	....	160,535
Excise	1,820,575	1,859,473	38,898	....
Stamps	1,549,171	1,538,125	....	11,046
Taxes	148,101	177,231	29,130	....
Property Tax	2,011,519	2,069,608	58,089	....
Post Office	234,000	231,000	....	3,000
Crown Lands	40,000	40,000	....	....
Miscellaneous	98,792	47,960	....	50,832
Total Ordinary Revenue	10,495,277	10,395,981	126,117	225,413
China Money	....	....	....	....
Imprest and other Moneys	204,361	301,759	97,398	....
Repayments of Advances	87,648	91,400	3,752	....
Total Income	10,787,286	10,789,140	227,267	225,413
Deduct Decrease			225,413	
Increase on the Quarter			1,854	

Consolidated Fund Operations.—The total income brought to this account in the quarter ending 5th April, 1850, was 10,796,885*l.* The total charge upon it was 8,080,241*l.*, leaving a surplus of 2,716,644*l.*

CORN.

Average Prices of Corn per Imperial Quarter in England and Wales, during each Week of the First Quarter of 1850; *together with the Average Prices for the whole Quarter.*—(*Continued from p.* 94.)

Returns received at the Corn Office.	Wheat.		Barley.	Oats.	Rye.	Beans.	Peas.
	Weekly Average	Aggregate Average of Six Weeks' regulating Duty.	Weekly Average	Weekly Average	Weekly Average	Weekly Average	Weekly Average
Weeks ending, 1850.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
January 5	40 0	39 5	25 11	15 10	24 11	26 11	28 5
12	41 1	39 6	26 4	15 6	23 4	26 6	28 6
19	41 0	39 10	26 3	16 0	23 9	26 6	27 6
26	40 1	40 0	25 9	15 10	21 2	26 1	28 5
February 2	39 4	40 2	25 4	15 2	23 10	25 6	27 0
9	38 6	40 0	24 7	15 3	22 1	25 3	26 4
16	37 9	39 8	23 10	15 4	20 7	24 11	26 10
23	37 11	39 1	23 7	15 6	20 11	24 8	26 0
March 2	38 6	38 8	23 9	14 11	21 11	24 4	25 11
9	38 6	38 5	23 10	15 5	23 3	24 7	25 4
16	38 1	38 3	23 8	14 11	22 7	24 1	25 2
23	37 8	38 1	23 4	15 2	23 5	23 11	25 2
30	37 9	38 1	23 6	15 2	21 7	23 10	25 3
Average for the Quarter	38 11	..	24 7	15 4	22 6	25 2	26 0

Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ending 5th January, 5th February, and 5th March, 1850; *the Quantities Entered for Home Consumption during the same Months; and the Quantities remaining in Warehouse at the close of them.*—(*Continued from p.* 94.)

WHEAT.

Months ending.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1850.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
5th Jan.	214,326	1,027	215,353	220,563	1,027	221,590	30,104	36	30,140
5th Feb.	137,923	704	138,627	141,057	704	141,761	26,971	35	27,006
5th Mar.	126,883	809	127,692	132,577	809	133,386	21,276	35	21,311

WHEAT-FLOUR.

Months ending.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1850.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
5th Jan.	201,172	45,246	246,418	204,105	45,426	249,531	10,624	102	10,726
5th Feb.	254,789	3,264	258,053	254,789	3,462	258,251	11,126	..	11,126
5th Mar.	207,400	1,289	208,689	207,605	1,289	208,894	10,050	..	10,050

Fluctuations in the Stock and Share Market during the Months of January, February, and March, 1850.

Stocks and Shares.	Amount of Share.			Amount Paid.			Price on the 1st of			Highest Price during the Months of			Lowest Price during the Months of		
	January.	February.	March.	January.	February.	March.	Jan.	Feb.	March.	Jan.	Feb.	March.	Jan.	Feb.	March.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.									
Consols	...	...	...	...	...	...	96⅜	96⅛	94⅞	97¼	96¼	96¼	96	94⅜	94⅞
Exchequer Bills	...	...	...	...	...	...	60*s.* Pm	60*s.* Pm	55*s.* Pm	63*s.* Pm	61*s.* Pm	67*s.* Pm	57*s.* Pm	54*s.* Pm	54*s.* Pm
Railways—															
Brighton	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	79	83	79	85¾	83¼	80¾	77½	79	78
Caledonian	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	10⅝	12⅛	11⅜	12¾	12¼	11¾	10⅜	11	8⅜
Eastern Counties	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	6⅞	7⅜	7⅛	7¼	7½	7½	6⅞	6⅞	7⅛
Great Northern	25 0 0	25 0 0	25 0 0	20 0 0	20 0 0	22 0 0	7¼	7	7⅝	8⅛	7	8¼	6¾	5¾	7⅜
Great Western	100 0 0	100 0 0	100 0 0	100 0 0	100 0 0	100 0 0	58	68½	56½	70	70	60¼	57⅜	56	55
London and North-Western	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	111	116	102½	120	116¾	107	110	104	102
Midland	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	45	44¼	39	46¼	44½	40½	42½	40	38½
North Staffordshire	20 0 0	20 0 0	20 0 0	17 10 0	17 10 0	17 10 0	7½	7	6⅛	7⅞	7¼	7½	7⅛	6⅜	6
South-Eastern	33 2 4	33 2 4	33 2 4	33 2 4	33 2 4	33 2 4	18¾	20¼	17½	20⅝	20¼	18½	18¾	17¾	13¾ ex div.
South-Western	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	60½	68	64½	70	68¼	65½	60	63	61½
York, Newcastle, & Berwick	Stock	Stock	Stock	25 0 0	25 0 0	25 0 0	16¾	16¼	13½	17½	16⅜	15	16⅛	14	13
York and North Midland	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	17¾	18¾	17	18¾	20	18⅛	17⅜	17⅛	16
Boulogne and Amiens	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	7⅜	7¾	6¾	8⅛	8	7¼	7⅛	6⅝ ex div.	6¼
Northern of France	20 0 0	20 0 0	20 0 0	14 8 0	16 0 0	16 0 0	12½	14½	13¾	13⅛	14½	13⅞	12½	13½	12
East Indian	20 0 0	20 0 0	20 0 0	...	5 0 0	5 0 0	4	5⅝	5½	4¼	5⅞	5⅝	3⅞	5⅜	5⅜
Great Indian Peninsula	5 0 0	5 0 0	...	0 10 0	1 0 0	...	0¾	1⅛	...	0¾	1⅛	...	0¾	1⅛	...

Average Price of Meat as sold in Smithfield Market in the Months ending 31*st January,* 28*th February, and* 31*st March,* 1850.

Description.	Jan.	Feb.	March.	Description.	Jan.	Feb.	March.	Description.	Jan.	Feb.	March.
	s. d.	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*
Inferior Beasts	3 0	3 1	2 9	Inferior Sheep	2 11	3 3	3 4	Coarse Calves	3 7	3 4	3 8
2nd class	3 5	3 5	3 2	2nd Class	3 3	3 8	3 8	Small Prime Calves	4 6	3 9	4 2
3rd class (Large Prime)	3 7	3 7	3 8	3rd Class	3 9	4 2	4 0	Small Hogs	3 6	3 6	3 6
4th class (Scots)	3 10	3 10	3 11	4th Class (South Down)	4 2	4 4	4 2	Small Neat Porkers	4 0	3 11	4 2
				Lambs	...	...	5 6				

N.B.—Price of Meat at the rate of 8 lbs. Avoirdupois to the stone, sinking the offal.

CURRENCY.

BANK OF ENGLAND.

An Account, pursuant to the Act of the 7th and 8th Victoria, c. 32, for the Weeks ending on Saturday, the 5th January, the 2nd February, the 2nd March, and the 30th March, 1850.—(*Continued from p. 95.*)

ISSUE DEPARTMENT.

	Weeks ending,			
	5th Jan., 1850.	2nd Feb., 1850.	2nd March, 1850.	30th March, 1850.
	£	£	£	£
Notes issued	30,267,475	30,104,810	30,376,160	30,301,265
Government Debt	11,015,100	11,015,100	11,015,100	11,015,100
Other Securities	2,984,900	2,984,900	2,984,900	2,984,900
Gold Coin and Bullion..	15,990,398	15,827,733	16,099,083	16,057,388
Silver Bullion	277,077	277,077	277,077	243,877
Total	30,267,475	30,104,810	30,376,160	30,301,265

BANKING DEPARTMENT.

Proprietors' Capital....	14,553,000	14,553,000	14,553,000	14,553,000
Rest	3,135,837	3,232,594	3,592,934	3,602,230
Public Deposits	10,321,413	5,727,761	7,838,208	9,571,047
Other Deposits.....	9,735,268	10,591,701	9,881,899	9,526,633
Seven Day and other Bills	1,085,169	1,205,956	1,096,306	1,060,332
Total	38,830,687	35,311,012	36,962,347	38,313,242
Government Securities, including Dead Weight Annuities..	14,375,681	14,296,554	14,419,732	14,418,854
Other Securities	11,691,026	9,828,739	10,425,030	12,267,353
Notes	12,010,975	10,479,370	11,367,885	10,819,365
Gold and Silver Coin ..	753,005	706,349	749,700	770,670
Total	38,830,687	35,311,012	36,962,347	38,313,242

COUNTRY BANKS.

Average Aggregate Amount of Promissory Notes of Country Banks, which have been in Circulation in the United Kingdom, distinguishing the several Banks, or Classes of Banks by which issued in each part of the Kingdom, during the weeks ending 29th December, 1849, 26th January, and 23rd February, 1850.—(*Continued from p. 95.*)

Banks.	29th December, 1849.	26th January, 1850.	23rd February, 1850.
England—Private Banks	3,539,754	3,685,345	3,597,017
Joint Stock Banks	2,601,159	2,680,526	2,657,976
Scotland—Chartered, Private, and Joint Stock Banks.....	3,242,448	3,112,859	3,054,463
Ireland—Bank of Ireland, Private and Joint Stock Banks	4,634,503	4,669,824	4,635,741
Total.....	14,017,864	14,148,554	13,945,197

QUARTERLY JOURNAL

OF THE

STATISTICAL SOCIETY OF LONDON.

AUGUST, 1850.

Mortality of Master Mariners. By F. G. P. Neison, Esq.

[Read before the Statistical Society of London, 18th June, 1849.]

The present contribution is brought under the attention of the Society with the view of increasing our knowledge of the causes which affect the mortality of Master Mariners. Apart from the scientific considerations connected with this question as a branch of vital statistics, it is believed that its discussion will receive additional interest from the immediate and direct application of the results to the purposes of Life Assurance Institutions.

The first portion of the following materials has been collected from the records of the "Master Mariners' Society," enrolled under the Friendly Societies' Acts, and includes the experience of the society for the fourteen years, 1835-48. The members consist exclusively of master mariners, and previous to admission, their health and habits undergo the scrutiny usually exercised by life offices and friendly societies. The benefits granted are of a twofold nature, the payments of specified sums of money on the death of the members, and a fixed rate of compensation in the event of the wreck or partial wreck of their vessels. The registers of the Society have been very accurately kept, and the following facts have been abstracted with great care by the secretary, on a schedule prepared for the purpose, and have been at three different times compared with the original books and examined by him, so that proper means have been taken to ensure accuracy.

The facts furnished by the secretary were then re-abstracted into other schedules, in the following manner.

First. All the members entering the Society in each year were distinguished and placed in separate groups according to their ages on admission, and the subsequent contingencies to be observed were, with their dates, duly noted; in the event of the death of a member, the peculiar form and manner of death, and in the event of the wreck or injury of a vessel, the particulars were always noted, and those members who did not fall under any of the causes of death, or withdrawal from the Society, were in like manner noted. The summary, therefore, of this schedule showed for the members entering in every year of the Society's existence, and for members of different ages, the results peculiar to each, and offered interesting means of comparison, and

were therefore so collected into a second schedule, the summary of which showed, irrespective of the period of admission, the casualties of different kinds, happening at each term of life. The details of these schedules occupy so much space, that it is not proposed to bring them forward here, but at once to proceed to the following Table, No. I., on which they were finally abstracted. The following notes will be sufficient to explain the construction of this Table.

Column (*a*) Represents the age at which the admission of each member, or other contingent event connected therewith, took place.

(*b*) The number of members admitted at each age.

(*c*) The number of members remaining under observation from each preceding age, and is the residue of all those entering in each preceding age, and who have not become subject to any of the contingent events represented in the adjoining columns. For example, one member enters at the age of 19, and not falling under the events specified in the adjoining columns, he survives until the succeeding age, and comes under observation as a member of the age of 20.

(*d*) Again, two members enter at the age of 20, which, with the one remaining from the age of 19, make 3, come under observation at some time or other after completing the 19th year of their life, and before completing the 20th year, none of these become subject to any of the other events specified, and the whole 3 are therefore carried under observation to the following age, 21, when 15 other members entered, making 18 altogether under observation at the age of 21. Of these, 1, recently entered, remains alive on the 31st December, 1848, and therefore passes from under observation at the age of 21, and consequently 17 only come under observation in the next year; but at the age of 22, there are 28 members more admitted, which, added to 17, causes 45 to fall under observation in the 22nd year of life. In like manner, 77 members in all come under observation at the age of 23. Of these, 1 is lost during the course of that year, and 1 retires, while 1, who has recently entered, remains alive on the 31st December, 1848, and is, therefore, not longer observed; 3 members in all, therefore, go from under observation at the age of 23, and 74 are carried forward to the succeeding age of 24, which, with 43 admitted at that age, brings 117 members altogether under review at the age of 24.

(*e*) Represents the numbers dying at each age or term of life from natural causes.

(*f* to *k*), inclusive, Represent the numbers dying at each age or term of life from other causes.

(*l*) Shows the total of columns *e* to *k*, inclusive.

(*m*, *n*, *o*) Show the wrecks and loss of property.

(*p*) Represents those who have retired under the prescribed regulations.

(*q*) Represents the number of members alive on the 31st December, 1848, and who have not become subject to any of the contingent events represented in columns *e* to *k*, inclusive, and also in *p*.

(*r*) Contains the total of columns *l*, *p*, and *q*, and represents the number of members which cease to come under observation in any of the more advanced ages. For example, at the age of 25, column *d* represents 169 coming under observation; but before attaining the 26th year of age, 6 of these pass from observation, leaving 163 to come under the 26th year of age, as shown in column *c*.

(*s*) Represents one half of the numbers entering the Society at each year of life at which admissions take place, and is, therefore, one half of the numbers in column *b*. In like manner, column

(*t*) Represents one half the numbers in column *p*; and column

(*u*) The total of columns *s* and *t*; the purpose of these three columns will appear in the explanation of column

(*v*) Which represents the number of lives exposed a complete year to the risk of mortality from all causes while connected with the Society, and the figures in this column are produced by subtracting from the numbers in column *d* the numbers in column *u*, opposite the same age. As already stated, column *d* contains the gross number under observation at some time or other throughout the year of life set forth in column *a*; but as column *b* contains for each age the numbers who have just entered the Society, and as members, one with another, enter at different periods throughout the year, it has been found, by observation, that, on an average, each is,

TABLE I.

Number Entered at each Age.	Number remaining under Observation from Age preceding.	Total Number under Observation at each Age.	Deaths.							Wrecks.			Retired.	Alive.	Total gone off.	Half Entered and half Discontinued.			Number Exposed to Risk.
			Died.	Lost.	Violent Deaths.	Drowned.	Washed overboard.	Hung himself.	Total.	Wrecked.	Partial Wreck.	Fire.				Entered.	Discontinued.	Total.	
b	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*k*	*l*	*m*	*n*	*o*	*p*	*q*	*r*	*s*	*t*	*u*	*v*
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	·5	..	·5	·5
2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	2
15	3	18	..	..	..	..	..	..	..	..	..	..	..	1	1	7·5	..	7·5	10·5
28	17	45	..	..	..	..	..	..	..	..	..	..	..	..	..	14	..	14	31
32	45	77	..	1	..	..	..	..	1	1	1	..	1	1	3	16	·5	16·5	60·5
43	74	117	1	2	..	..	..	..	3	5	1	..	1	3	7	21·5	·5	22	95
59	110	169	1	1	..	..	..	..	2	3	2	..	3	1	6	29·5	1·5	31	138
64	163	227	1	2	..	2	2	..	7	5	..	1	3	6	16	32	1·5	33·5	193·5
57	211	268	2	..	..	..	..	..	2	3	2	..	6	9	17	28·5	3	31·5	236·5
66	251	317	4	2	..	..	..	..	6	6	4	..	7	5	18	33	3·5	36·5	280·5
60	299	359	5	3	..	..	..	..	8	4	2	..	9	11	28	30	4·5	34·5	324·5
88	331	419	4	3	..	1	..	..	8	5	7	..	10	12	30	44	5	49	370
54	389	443	2	2	1	1	..	..	6	8	5	..	9	28	43	27	4·5	31·5	411·5
64	400	464	7	2	..	1	3	..	13	11	..	..	12	41	66	32	6	38	426
65	398	463	11	..	..	1	..	..	12	7	6	..	13	37	62	32·5	6·5	39	424
93	401	494	4	4	..	1	..	..	9	9	1	..	7	25	41	46·5	3·5	50	444
77	453	530	5	7	..	1	..	..	13	14	4	1	5	38	56	38·5	2·5	41	489
63	474	537	2	2	1	1	1	..	7	12	3	..	15	33	55	31·5	7·5	39	498
59	482	541	7	1	..	..	..	..	8	10	5	..	11	57	76	29·5	5·5	35	506
77	465	542	11	2	1	1	..	..	15	14	..	..	8	41	64	38·5	4	42·5	499·5
70	478	548	6	1	..	2	..	..	9	9	3	..	10	35	54	35	5	40	508
58	494	552	6	6	1	2	3	..	18	12	5	..	9	44	71	29	4·5	33·5	518·5
42	481	523	6	3	1	..	1	..	11	7	9	..	11	47	69	21	5·5	26·5	496·5
33	454	487	10	..	..	1	..	..	11	6	2	..	11	51	73	16·5	5·5	22	465
46	414	460	9	7	..	1	..	..	7	8	3	..	7	47	71	23	3·5	26·5	433·5
44	389	433	6	1	..	..	..	..	7	11	3	..	..	43	50	22	..	22	411
24	383	407	3	..	..	2	1	..	6	3	..	..	10	43	59	12	5	17	390
15	348	363	9	1	..	1	..	..	11	6	5	1	5	42	58	7·5	2·5	10	353
24	305	329	3	1	..	1	..	..	5	2	4	..	9	54	68	12	4·5	16·5	312·5
28	261	289	7	2	..	..	..	..	9	6	..	..	8	44	61	14	4	18	271
28	228	256	5	1	1	1	..	..	8	2	1	..	2	36	46	14	1	15	241
13	210	223	6	3	1	..	..	1	11	2	4	..	7	29	47	6·5	3·5	10	213
4	176	180	3	..	..	1	..	..	4	6	1	..	5	21	30	2	2·5	4·5	175·5
12	150	162	5	2	..	1	..	..	8	6	2	..	5	25	38	6	2·5	8·5	153·5
15	124	139	1	..	..	..	..	..	1	3	1	1	7	13	21	7·5	3·5	11	128
11	118	129	..	..	..	..	1	..	1	3	..	..	2	18	21	5·5	1	6·5	122·5
5	108	113	7	..	..	..	..	..	7	..	2	1	4	14	25	2·5	2	4·5	108·5
4	88	92	1	..	..	..	..	..	1	1	..	..	4	10	15	2	2	4	88
..	77	77	1	..	..	..	..	..	1	1	..	..	4	12	17	..	2	2	75
3	60	63	1	..	..	..	..	..	1	..	1	..	2	8	11	1·5	1	2·5	60·5
..	52	52	1	..	..	..	..	..	1	..	..	..	1	11	13	..	·5	·5	51·5
..	..	39	2	..	..	..	..	..	2	1	1	..	..	12	14	..	..	..	39
..	..	25	..	..	..	..	..	..	..	..	..	..	..	3	3	..	..	..	25
..	..	22	..	..	..	..	..	..	..	1	..	..	..	5	5	..	..	..	22
..	..	17	..	..	..	..	..	..	..	..	..	..	1	3	4	..	·5	·5	16·5
..	..	13	..	..	..	..	..	..	..	..	..	..	..	5	5	..	..	..	13
..	..	8	..	..	..	..	..	..	..	..	..	..	1	3	4	..	·5	·5	7·5
..	..	4	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	4
..	..	2	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1,546		12,041	165	62	7	23	12	1	270	213	90	5	245	1,031	1,546	773·0	122·5	895·5	11145·5

during the year of admission, exposed to only six months', or one half-year's mortality, and hence column *s* represents that amount of risk for all the members just admitted. In like manner, column *t* represents the amount of risk to which members retiring from the Society are exposed, on the hypothesis that, one with another, the discontinuances will take place in the middle of the year. It thus appears, that as column *u* is the total of *s* and *t*, that it shows the proper number to be deducted from the quantities in column *d*, in order to find the number exposed to the risk of a whole year's mortality.

From this Table, it will be seen that of 270 deaths, 165 only have taken place from natural causes, 62 were lost with their vessels, 7 took place by violent means, such as falling of masts, and loss of life in engagements with pirates, 23 were drowned, 12 washed overboard, and 1 hung himself.

The following is a condensed abstract of this Table, and represents the rate of mortality from all causes taking place among master mariners, at different periods of life.

ABSTRACT A.

Ages.	Number exposed to the risk of Mortality from all causes.	Died.	Mortality, per cent.
19—20.....	2·5	....	....
21—25.....	335·0	6	1·791
26—30.....	1,405·0	31	2·206
31—35.....	2,194·5	53	2·415
36—40.....	2,530·0	57	2·253
41—45.....	2,196·0	52	2·368
46—50.....	1,390·5	44	3·164
51—55.....	688·0	21	3·052
56—60.....	314·0	6	1·911
61—65.....	84·0	....	....
66—68.....	6·0	....	....
Total.....	11,145·5	270	2·423

It will thus be seen that throughout the Table, the rate of mortality is high, and attention is next directed to Table II., which exhibits the mortality that has taken place from natural causes only. In this Table, it will be observed that columns *a* to *e* inclusive, are exactly similar to the first five columns of Table I., but that the group of columns headed "discontinued," in Table II., consists of columns *f*, *g*, *h*, *i*, and *k*, of Table I., with the addition of *p*. The reason of this will immediately appear on reflection. In Table I., the mortality from all causes was considered, and, therefore, in the determination of the number exposed to risk, the members retiring or withdrawing from the Society, only come under the head of "discontinued," but in Table II., the mortality from natural causes only is to be measured, and, therefore, the "discontinued" group will consist not only of the retired members, but also of those withdrawing or removing from the Society by all other causes, except natural death; consequently column *s* is found by deducting from column *d* the sum of columns *p* and *q*, or column *r*. The rest of Table II. will be sufficiently understood by what has been said of Table I.

TABLE II.

Number Entered at each Age.	Number remaining under Observation from Age preceding.	Total Number under Observation at each Age.	Died.	Discontinued.							Alive.	Total gone off.	Half Entered and half Discontinued.			Number Exposed to Risk.
				Lost.	Violent Death.	Drowned.	Washed overboard.	Hung himself.	Retired.	Total.			Entered.	Discontinued.	Total.	
b	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*k*	*l*	*m*	*n*	*o*	*p*	*q*	*r*	*s*
1	..	1	..	..	..	..	..	..	..	..	..	..	·5	..	·5	·5
2	1	3	..	..	..	..	..	..	..	..	..	..	1	..	1	2
15	3	18	..	..	..	..	..	..	..	..	1	1	7·5	..	7·5	10·5
28	17	45	..	..	..	..	..	..	..	..	..	..	14	..	14	31
32	45	77	..	1	..	..	..	..	1	2	1	3	16	1	17	60
43	74	117	1	2	..	..	..	..	1	3	3	7	21·5	1·5	23	94
59	110	169	1	1	..	..	..	..	3	4	1	6	29·5	2	31·5	137·5
64	163	227	1	2	..	2	2	..	3	9	6	16	32	4·5	36·5	190·5
57	211	268	2	..	..	..	..	..	6	6	9	17	28·5	3	31·5	236·5
66	251	317	4	2	..	..	..	..	7	9	5	18	33	4·5	37·5	279·5
60	299	359	5	3	..	..	..	..	9	12	11	28	30	6	36	323
88	331	419	4	3	..	1	..	..	10	14	12	30	44	7	51	368
54	389	443	2	2	1	1	..	..	9	13	28	43	27	6·5	33·5	409·5
64	400	464	7	2	..	1	3	..	12	18	41	66	32	9	41	423
65	398	463	11	..	..	1	..	..	13	14	37	62	32·5	7	39·5	423·5
93	401	494	4	4	..	1	..	..	7	12	25	41	46·5	6	52·5	441·5
77	453	530	5	7	..	1	..	..	5	13	38	56	38·5	6·5	45	485
63	474	537	2	2	1	1	1	..	15	20	33	55	31·5	10	41·5	495·5
59	482	541	7	1	..	..	..	..	11	12	57	76	29·5	6	35·5	505·5
77	465	542	11	2	1	1	..	..	8	12	41	64	38·5	6	44·5	497·5
70	478	548	6	1	..	2	..	..	10	13	35	54	35	6·5	41·5	506·5
58	494	552	6	6	1	2	3	..	9	21	44	71	29	10·5	39·5	512·5
42	481	523	6	3	1	..	1	..	11	16	47	69	21	8	29	494
33	454	487	10	..	..	1	..	..	11	12	51	73	16·5	6	22·5	464·5
46	414	460	9	7	..	1	..	..	7	15	47	71	23	7·5	30·5	429·5
44	389	433	6	1	..	..	..	..	..	1	43	50	22	·5	22·5	410·5
24	383	407	3	..	..	2	1	..	10	13	43	59	12	6·5	18·5	388·5
15	348	363	9	1	..	1	..	..	5	7	42	58	7·5	3·5	11	352
24	305	329	3	1	..	1	..	..	9	11	54	68	12	5·5	17·5	311·5
28	261	289	7	2	..	..	..	..	8	10	44	61	14	5	19	270
28	228	256	5	1	1	1	..	..	2	5	36	46	14	2·5	16·5	239·5
13	210	223	6	3	1	..	..	1	7	12	29	47	6·5	6	12·5	210·5
4	176	180	3	..	..	1	..	..	5	6	21	30	2	3	5	175
12	150	162	5	2	..	1	..	..	5	8	25	38	6	4	10	152
15	124	139	1	..	..	..	..	..	7	7	13	21	7·5	3·5	11	128
11	118	129	..	..	..	..	1	..	2	3	18	21	5·5	1·5	7	122
5	108	113	7	..	..	..	..	..	4	4	14	25	2.5	2	4·5	108·5
4	88	92	1	..	..	..	..	..	4	4	10	15	2	2	4	88
..	77	77	1	..	..	..	..	..	4	4	12	17	..	2	2	75
3	60	63	1	..	..	..	..	..	2	2	8	11	1·5	1	2·5	60·5
..	52	52	1	..	..	..	..	..	1	1	11	13	..	·5	·5	51·5
..	..	39	2	..	..	..	..	..	..	..	12	14	..	..	..	39
..	..	25	..	..	..	..	..	..	..	..	3	3	..	..	..	25
..	..	22	..	..	..	..	..	..	..	..	5	5	..	..	..	22
..	..	17	..	..	..	..	..	..	1	1	3	4	..	·5	·5	16·5
..	..	13	..	..	..	..	..	..	..	..	5	5	..	..	..	13
..	..	8	..	..	..	..	..	..	1	1	3	4	..	·5	·5	7·5
..	..	4	..	..	..	..	..	..	..	..	2	2	..	..	..	4
..	..	2	..	..	..	..	..	..	..	..	2	2	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1,546		12,041	165	62	7	23	12	1	245	350	1,031	1,546	773·0	175·0	948·0	11093·0

The following abstract of this Table will make the results better understood.

ABSTRACT B.

Ages.	Number exposed to the risk of Mortality from natural causes.	Died.	Mortality, per cent.
19—20.....	2·5	....	....
21—25.....	333·0	2	·600
26—30.....	1,397·5	16	1·145
31—35.....	2,182·5	29	1·324
36—40.....	2,517·5	32	1·231
41—45.....	2,187·0	34	1·555
46—50.....	1,383·5	30	2·168
51—55.....	685·5	16	2·480
56—60.....	314·0	6	1·910
61—65.....	84·0	....	....
66—68.....	6·0	....	....
Total.....	11,093·0	165	1·488

The preceding, which show the rate of mortality from natural causes, will be found to be much above that for the male population of the country generally at the same ages.

The next part of this subject to be considered, is the rate of mortality from accidental causes, or rather those causes peculiar to the occupation of master mariners. Table III. gives those results, and it will on consideration soon appear that in this instance, the "discontinued" group must, for like reasons to those assigned in explanation of the Table II., consist of the members who have died from natural causes, and those who have retired from the Society, that is, the numbers composing columns *e* and *p* of Table I. It will thus be found, that in Tables I., II., and III., the numbers exposed to the risk of mortality differ, and this arises from the fact that the peculiar contingency to be measured is different in each instance, and, hence, the difference of the quantities forming the last column of each table. Table I. measures the sum of the force of the two causes prevailing in each of the other two tables, and, therefore, the greater number exposed to risk.

TABLE III.

Number Entered at each Age.	Number remaining under Observation from Age preceding.	Total Number under Observation at each Age.	Discontinued.			Deaths.						Alive.	Total gone off.	Half Entered and half Discontinued.			Number Exposed to Risk.
			Died.	Retired.	Total.	Lost.	Violent Death.	Drowned.	Washed overboard.	Hung himself.	Total.			Entered.	Discontinued.	Total.	
b	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*k*	*l*	*m*	*n*	*o*	*p*	*q*	*r*	*s*	*t*
1	..	1	..	..	..	..	..	..	..	..	..	..	..	·5	..	·5	·5
2	1	3	..	..	..	..	..	..	..	..	..	..	..	1	..	1	2
15	3	18	..	..	..	..	..	..	..	..	..	1	1	7·5	..	7·5	10·5
28	17	45	..	..	..	..	..	..	..	..	..	..	..	14	..	14	31
32	45	77	..	1	1	1	..	..	..	..	1	1	3	16	·5	16·5	60·5
43	74	117	1	1	2	2	..	..	..	..	2	3	7	21·5	1	22·5	94·5
59	110	169	1	3	4	1	..	..	..	..	1	1	6	29·5	2	31·5	137·5
64	163	227	1	3	4	2	..	2	2	..	6	6	16	32	2	34	193
57	211	268	2	6	8	..	..	..	..	..	..	9	17	28·5	4	32·5	235·5
66	251	317	4	7	11	2	..	..	..	..	2	5	18	33	5·5	38·5	278·5
60	299	359	5	9	14	3	..	..	..	..	3	11	28	30	7	37	322
88	331	419	4	10	14	3	..	1	..	..	4	12	30	44	7	51	368
54	389	443	2	9	11	2	1	1	..	..	4	28	43	27	5·5	32·5	410·5
64	400	464	7	12	19	2	..	1	3	..	6	41	66	32	9·5	41·5	422·5
65	398	463	11	13	24	..	..	1	..	..	1	37	62	32·5	12	44·5	418·5
93	401	494	4	7	11	4	..	1	..	..	5	25	41	46·5	5·5	52	442
77	453	530	5	5	10	7	..	1	..	..	8	38	56	38·5	5	43·5	486·5
63	474	537	2	15	17	2	1	1	1	..	5	33	55	31·5	8·5	40	497
59	482	541	7	11	18	1	..	..	..	..	1	57	76	29·5	9	38·5	502·5
77	465	542	11	8	19	2	1	1	..	..	4	41	64	38·5	9·5	48	494
70	478	548	6	10	16	1	..	2	..	..	3	35	54	35	8	43	505
58	494	552	6	9	15	6	1	2	3	..	12	44	71	29	7·5	36·5	515·5
42	481	523	6	11	17	3	1	..	1	..	5	47	69	21	8·5	29·5	493·5
33	454	487	10	11	21	..	..	1	..	..	1	51	73	16·5	10·5	27	460
46	414	460	9	7	16	7	..	1	..	..	8	47	71	23	8	31	429
44	389	433	6	..	6	1	..	..	..	..	1	43	50	22	3	25	408
24	383	407	3	10	13	..	..	2	1	..	3	43	59	12	6·5	18·5	388·5
15	348	363	9	5	14	1	..	1	..	..	2	42	58	7·5	7	14·5	348·5
24	305	329	3	9	12	1	..	1	..	..	2	54	68	12	6	18	311
28	261	289	7	8	15	2	..	..	..	..	2	44	61	14	7·5	21·5	267·5
28	228	256	5	2	7	1	1	1	..	..	3	36	46	14	3·5	17·5	238·5
13	210	223	6	7	13	3	1	..	..	1	5	29	47	6·5	6·5	13	210
4	176	180	3	5	8	..	..	1	..	..	1	21	30	2	4	6	174
12	150	162	5	5	10	2	..	1	..	..	3	25	38	6	5	11	151
15	124	139	1	7	8	..	..	..	..	..	..	13	21	7·5	4	11·5	127·5
11	118	129	..	2	2	..	..	..	1	..	1	18	21	5·5	1	6·5	122·5
5	108	113	7	4	11	..	..	..	..	..	..	14	25	2·5	5·5	8	105
4	88	92	1	4	5	..	..	..	..	..	..	10	15	2	2·5	4·5	87·5
..	77	77	1	4	5	..	..	..	..	..	..	12	17	..	2·5	2·5	74·5
3	60	63	1	2	3	..	..	..	..	..	..	8	11	1·5	1·5	3	60
..	52	52	1	1	2	..	..	..	..	..	..	11	13	..	1	1	51
..	..	39	2	..	2	..	..	..	..	..	..	12	14	..	1	1	38
..	..	25	..	..	..	..	..	..	..	..	..	3	3	..	..	..	25
..	..	22	..	..	..	..	..	..	..	..	..	5	5	..	..	..	22
..	..	17	.	1	1	..	..	..	..	..	..	3	4	..	·5	·5	16·5
..	..	13	..	..	..	..	..	..	..	..	..	5	5	..	..	..	13
..	..	8	..	1	1	..	..	..	..	..	..	3	4	..	·5	·5	7·5
..	..	4	..	..	..	..	..	..	..	..	..	2	2	..	..	..	4
..	..	2	..	..	..	..	..	..	..	..	..	2	2	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1,546		12,041	165	245	410	62	7	23	12	1	105	1,031	1,546	773·0	205·0	978·0	11063·0

The following abstract of this Table shows that in each of the three earlier quinquennial periods of life, the mortality from accidental causes is greater than in the more advanced periods of life, and should more extended inquiries confirm these results, it would be a curious circumstance to know that advanced years and increased experience should enable master mariners to avoid many of the causes which occasion loss of life. There are many ways in which amongst more experienced captains this immunity from death may be accounted for, such as being in the command of a higher class of vessels, but it is quite unnecessary to speculate on the cause.

ABSTRACT C.

Ages.	Number exposed to the risk of Death from accidental causes.	Died.	Mortality, per cent.
19—20.....	2·5	....	....
21—25.....	334·0	4	1·197
26—30.....	1,397·0	15	1·074
31—35.....	2,180·0	24	1·101
36—40.....	2,514·0	25	·995
41—45.....	2,179·0	18	·826
46—50.....	1,375·5	14	1·018
51—55.....	680·0	5	·737
56—60.....	311·0	....	....
61—65.....	84·0	....	....
66—68.....	6·0	....	....
Total.....	11,063·0	105	0·949

Having thus determined the ratio of the loss of life from the various causes among master mariners, it may be interesting to show the relation between the actual number of deaths, which has taken place from each of these causes, and that which would have happened, had the number of deaths been the same as among the male population of England and Wales, at the same ages.

ABSTRACT D.

Ages.	Number of Deaths from			
	All Causes.		Natural Causes.	
	Among Master Mariners.	Male Population of England and Wales.	Among Master Mariners.	Male Population of England and Wales.
19—20	0	·019	0	·019
21—25	6	2·935	2	2·917
26—30	31	14·022	16	13·947
31—35	53	23·328	29	23·130
36—40	57	29·272	32	29·133
41—45	52	28·965	34	28·847
46—50	44	21·692	30	21·583
51—55	21	13·313	16	13·264
56—60	6	7·943	6	7·943
61—65	....	2·918	....	2·918
66—68	....	·276	....	·276
Total.....	270	144·683	165	143·977

Hence, it appears, that while from all causes 270 deaths happened in the Master Mariners' Society, the number of deaths which would have happened according to the mortality of the male population of England and Wales, as taken from p. 5 of "Contributions to Vital Statistics," is 144·683, being an increased mortality of upwards of 86 per cent., but if the mortality between the ages 21 and 60 only be taken, the increase is 90 per cent.

Again, the same abstract shows that while the mortality from natural causes was 165, the mortality according to the ratio for England and Wales was 143·977, being a difference of about 14·5 per cent., and if ages 21 to 60 only be included, the increase is about 18 per cent. This result certainly goes against the generally received opinion, that the deaths of mariners from natural causes only, is less than in the community generally, and shows the necessity of being very careful before drawing conclusions in the absence of clearly recorded and well analysed facts. There is no doubt that many inferences may be drawn from the data here presented, applicable to some of the questions at present agitated, in regard to the health of towns, and the sanitary condition of different districts, but as these speculations do not directly bear on the subject now under consideration, they had better not be entered upon.

Table IV. has been prepared in order to show whether the age, and, therefore, as a general rule, the experience of the captains of vessels, has any, and what influence on the losses of property under their charge. In this table, the "discontinued group" will consist of all causes of removal from the Society, whether by death or otherwise, as vessels could not be considered under the charge of members for an entire year, unless they were, without any interruption, members of the Society for the whole of that year, and, therefore, if death or any other cause removed them from the Society in the course of the year, a correction must be applied, as in column *p*, on that account.

TABLE IV.

Age.	Number Entered at each Age.	Number under Observation from Age preceding.	Total Number under Observation at each Age.	Wrecks.				Discontinued.				Half Discontinued and half Entered.			Number Exposed to Risk.
				Wrecks.	Partial Wrecks.	Partial Loss by Fire.	Total.	Deaths.	Retired.	Alive.	Total.	Entered.	Discontinued.	Total.	
a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*k*	*l*	*m*	*n*	*o*	*p*	*q*
19..	1	..	1	..	..	..	..	..	..	..	..	·5	..	·5	
20..	2	1	3	..	..	..	..	..	..	..	..	1	..	1	
21..	15	3	18	..	..	..	..	..	..	1	1	7·5	·5	8	1
22..	28	17	45	..	..	..	..	..	..	..	..	14	..	14	3
23..	32	45	77	1	1	..	2	1	1	1	3	16	1·5	17·5	5
24..	43	74	117	5	1	..	6	3	1	3	7	21·5	3·5	25	9
25..	59	110	169	3	2	..	5	2	3	1	6	29·5	3	32·5	13
26..	64	163	227	5	..	1	6	7	3	6	16	32	8	40	18
27..	57	211	268	3	2	..	5	2	6	9	17	28·5	8·5	37	23
28..	66	251	317	6	4	..	10	6	7	5	18	33	9	42	27
29..	60	299	359	4	2	..	6	8	9	11	28	30	14	44	31
30..	88	331	419	5	7	..	12	8	10	12	30	44	15	59	36
31..	54	389	443	8	5	..	13	6	9	28	43	27	21·5	48·5	39
32..	64	400	464	11	..	..	11	13	12	41	66	32	33	65	39
33..	65	398	463	7	6	..	13	12	13	37	62	32·5	31	63·5	39
34..	93	401	494	9	1	..	10	9	7	25	41	46·5	20·5	67	42
35..	77	453	530	14	4	1	19	13	5	38	56	38·5	28	66·5	46
36..	63	474	537	12	3	..	15	7	15	33	55	31·5	27·5	59	47
37..	59	482	541	10	5	..	15	8	11	57	76	29·5	38	67·5	47
38..	77	465	542	14	..	..	14	15	8	41	64	38·5	32	70·5	47
39..	70	478	548	9	3	..	12	9	10	35	54	35	27	62	48
40..	58	494	552	12	5	..	17	18	9	44	71	29	35·5	64·5	48
41..	42	481	523	7	9	..	16	11	11	47	69	21	34·5	55·5	46
42..	33	454	487	6	2	..	8	11	11	51	73	16·5	36·5	53·	43
43..	46	414	460	8	3	..	11	17	7	47	71	23	35·5	58·5	40
44..	44	389	433	11	3	..	14	7	..	43	50	22	25	47·	38
45..	24	383	407	3	..	..	3	6	10	43	59	12	29·5	41·5	36
46..	15	348	363	6	5	1	12	11	5	42	58	7·5	29	36·5	33
47..	24	305	329	2	4	..	6	5	9	54	68	12	34	46	28
48..	28	261	289	6	..	..	6	9	8	44	61	14	30·5	44·5	24
49..	28	228	256	2	1	..	3	8	2	36	46	14	23	37	21
50..	13	210	223	2	4	..	6	11	7	29	47	6·5	23·5	30	19
51..	4	176	180	6	1	..	7	4	5	21	30	2	15	17	16
52..	12	150	160	6	2	..	8	8	5	25	38	6	19	25	15
53..	15	124	139	3	1	1	5	1	7	13	21	7·5	10·5	18	12
54..	11	118	129	3	..	..	3	1	2	18	21	5·5	10·5	16	11
55..	5	108	113	..	2	1	3	7	4	14	25	2·5	12·5	15	9
56..	4	88	92	1	..	..	1	1	4	10	15	2	7·5	9·5	8
57..	..	77	77	1	..	..	1	1	4	12	17	..	8·5	8·5	6
58..	3	60	63	..	1	..	1	1	2	8	11	1·5	5·5	7	5
59..	..	52	52	..	..	..	..	1	1	11	13	..	6·5	6·5	4
60..	..	..	39	1	1	..	2	2	..	12	14	..	7	7	3
61..	..	..	25	..	..	..	..	..	..	3	3	..	1·5	1·5	2
62..	..	..	22	1	..	..	1	..	..	5	5	..	2·5	2·5	1
63..	..	..	17	..	..	..	..	..	1	3	4	..	2	2	
64..	..	..	13	..	..	..	..	..	..	5	5	..	2·5	2·5	
65..	..	..	8	..	..	..	..	..	1	3	4	..	2	2	
66..	..	..	4	..	..	..	..	..	..	2	2	..	1	1	
67..	..	..	2	..	..	..	..	..	..	2	2	..	1	1	
68..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	1,546		12,041	213	90	5	308	270	245	1,031	1,546	773·0	773·0	1546·0	104

Of the 308 wrecks which have taken place, it will be observed that no less than 213 have been total wrecks, 90 partial wrecks, and 5 losses by fire.

The following abstract exhibits in a condensed form the results arrived at in this Table.

ABSTRACT E.

Ages.	Number exposed to risk of Wreck.	Total Number of Wrecks.		Per Centage, Yearly, of		Total Losses.	
		Total Wrecks.	Partial Wrecks.	Total Wrecks.	Partial Wrecks.	Number.	Per Centage.
19—20.....	2·5	....	....	....	....	....	....
21—25.....	329·0	9	4	2·736	1·216	13	3·951
26—30.....	1,368·0	23	15	1·681	1·096	39	2·851
31—35.....	2,083·5	49	16	2·352	0·768	66	3·168
36—40.....	2,396·5	57	16	2·378	0·667	73	3·046
41—45.....	2,054·5	35	17	1·703	0·827	52	2·531
46—50.....	1,266·0	18	14	1·422	1·106	33	2·607
51—55.....	632·0	18	6	2·848	0·949	26	4·114
56—60.....	284·5	3	2	1·054	0·703	5	1·757
61—65.....	74·5	1	....	1·342	....	1	1·342
66—68.....	4·0	....	....	....	....	....	....
Total....	10,495·0	213	90	2·029	0·857	308	2·935

It will thus be seen, that at the younger ages, the wrecks and losses of property under the charge of master mariners, is greater than at the more advanced ages, and these facts, viewed in connection with the circumstance already alluded to, that the loss of life from accidental and extraordinary events is also more frequent at younger ages, strengthens the presumption, that increased years and experience among the captains of merchant vessels, give greater security to both life and property under their charge.

Having thus shown the principal results arrived at, attention will be next directed to the application of them to the monetary affairs of Life Offices. It is very much to be regretted, that the proprietors and managers of Life Assurance Companies should have given so very little attention to the nature of the risks which they are constantly undertaking, and have contributed little or nothing in a pecuniary point of view, to the investigation of those branches of science, by the application of which the shareholders have realized immense and most exorbitant profits, on the capital invested in such speculations. It is notorious, that notwithstanding many societies have at command a greater capital than some of the Governments of Europe, there is not a single public document extant, throwing light on the state and condition of any other class of the community than their own members, published at the expence of those societies. Of the very meagre quantity of information which does exist, all has been derived from other sources; and there is no wonder, therefore, that in these wealthy corporations there should exist the anomalous feature unknown to other matters of enterprise and industry, of the practice being much in advance of the science on which it should be founded; in fact, after the

most diligent inquiries, a single instance has not been found of any one of these great and powerful Companies, which boast of their millions of invested capital, having spent 500*l.* in the original investigation of any single branch or deparment of vital statistics. It is, therefore, hoped that it will not be considered out of place to bring under the attention of this Society, the details of a question which, under other circumstances, would properly belong to the traders in the shares of Life Assurance Institutions.

In the preceding inquiry, an analysis has been made of the various causes of death. This is, no doubt, important as suggesting means by which, under sanitary regulations, the intensity of some of those forces may be lessened, but, for the general purposes of a Life Office, a knowledge of the gross rate of mortality, is all that is required. Attention is therefore now directed to the results given in abstract A, from which a Table of Decrements may be easily formed. In that abstract, the rate of mortality is given for quinquennial ages only, but the intermediate terms may be found in the following manner.

Let the figures in the second column of the following abstract represent the original quantities for quinquennial ages, derived from abstract A, and let the columns headed Δ_1, Δ_2, Δ_3, be the 1st, 2nd, and 3rd differences of the original quantities, also let (a), (b), and (c), which are the second and every alternate quantity in each of the three last columns, be equal to $\cdot 2\Delta_1$, $\cdot 04\Delta_2$, and $\cdot 008\Delta_3$, respectively.

Abstract F.

Age.	(1).	Δ_1	Δ_2	Δ_3
23	1·791	+ ·415	— ·206	— ·165
		a = + ·0830	b = — ·00824	c = — ·001320
28	2·206	+ ·209	— ·371	+ ·648
		a = + ·0418	b = — ·01484	c = + ·005184
33	2·415	— ·162	+ ·277	+ ·404
		a = — ·0324	b = + ·01108	c = + ·003232
38	2·253	+ ·115	+ ·681	— 1·589
		a = + ·0230	b = + ·02724	c = — ·012712
43	2·368	+ ·796	— ·908	+ 2·195
		a = + ·1592	b = — ·03632	c = + ·017560
48	3·164	— ·112	+ 1·287	— 1·096
		a = — ·0224	b = + ·05148	c = — ·008768
53	3·052	+ 1·175	+ ·191	+ ·521
		a = + ·2350	b = + ·00764	c = + ·004168
58	4·227	+ 1·366	+ ·712	
		a = + ·2732	b = + ·02848	
63	5·593	+ 2·078		
		a = + ·4156		
68	7·671			

Then the intervals to be interpolated, being $\frac{1}{5}$, the intermediate terms to be inserted between the original quantities, will, therefore, be found as follows:

$$\left.\begin{array}{l} 1^{\text{ist}}\ \delta_1 = a - 2b + 6c \\ 1^{\text{ist}}\ \delta_2 = \ .\ .\ b - 4c \\ \text{and}\ \delta_3 = \ .\ .\ .\ .\ c \end{array}\right\} \text{in Abstract F.}$$

ABSTRACT G.

Age.	(1).	δ_1	δ_2	Age.	(1).	δ_1	δ_2
21	1·604280			46	3·077480	+·141640	−·071440
		+·093520				·070200	
22	1·697800		−·000320	47	3·147680		·053880
		·093200				+·016320	
23	**1·791**		·001640	48	**3·164**		−·194288
		·091560				−·177968	
24	1·882560		·002960	49	2·986032		+·086552
		·088600				·091416	
25	1·971160		·004280	50	2·894616		·077784
		·084320				−·013632	
26	2·055480		·005600	51	2·880984		·069016
		·078720				+·055384	
27	2·134200		−·006920	52	2·936368		·060248
		·071800				·115632	
28	**2·206**		+·030784	53	**3·052**		+·129096
		·102584				·244728	
29	2·308584		−·035576	54	3·296728		−·009032
		·067008				·235696	
30	2·375592		·030392	55	3·532424		·004864
		·036616				·230832	
31	2·412208		·025208	56	3·763256		−·000696
		+·011408				·230136	
32	2·423616		·020024	57	3·993392		+·003472
		−·008616				·233608	
33	**2·415**		·026552	58	**4·227**		+·059384
		·035168				·292992	
34	2·379832		−·001848	59	4·519992		−·001128
		·037016				·291864	
35	2·342816		+·001384	60	4·811856		·009896
		·035632				·281968	
36	2·307184		·004616	61	5·093824		·018664
		·031016				·263304	
37	2·276168		+·007848	62	5·357128		−·027432
		·023168				·235872	
38	**2·253**		−·084584	63	**5·593**		+·139440
		·107752				·375312	
39	2·145248		+·078088	64	5·968312		·024312
		−·029664				·399624	
40	2·115584		·065376	65	6·367936		·020144
		+·035712				·419768	
41	2·151296		·052664	66	6·787704		·015976
		·088376				·435744	
42	2·239672		·039952	67	7·223448		+·011808
		·128328				+·447552	
43	**2·368**		+·208872	68	**7·671**		
		·337200					
44	2·70520		−·106560				
		+·230640					
45	2·93584		−·089000				

It will be observed that there is considerable irregularity in the original quantities, as taken from abstract A, but it was thought better not to disturb the natural results by any attempt to convert them into a graduated series. After the quinquennial period of life 50-55, the numbers are too small to warrant much reliance being placed on the results, and, therefore, subsequent to that period, an increasing series has been adopted, maintaining, as nearly as possible, the same relation at these advanced ages, to the ordinary tables of mortality for male life, which the figures in abstract A, for younger ages, bear to the general mortality of England and Wales.

From the results thus obtained, the following Table of Decrements is derived.

TABLE V.

Age.	Mortality per Cent $= d$.	$\lambda\left(1-\frac{d}{100}\right)=c$ $5+\Sigma(c)=\lambda a$.	a = Number Living.	Number Dying.	Age.	Mortality per Cent $= d$.	$\lambda\left(1-\frac{d}{100}\right)=c$ $5+\Sigma(c)=\lambda a$.	a = Number Living.	Number Dying.
21	1·604	5·0000000	100,000	1,604	40	2·116	·8198832	66,052	1,398
		9·9929774					·9907117		
22	1·698	4·9929774	98,396	1,671	41	2·151	·8105949	64,654	1,391
		·9925624					·9905564		
23	1·791	·9855398	96,725	1,732	42	2·240	·8011513	63,263	1,417
		·9921513					·9901612		
24	1·883	·9776911	94,993	1,789	43	2·368	·7913125	61,846	1,464
		·9917443					·9895922		
25	1·971	·9694354	93,204	1,837	44	2·705	·7809047	60,382	1,634
		·9913546					·9880905		
26	2·055	·9607900	91,367	1,877	45	2·936	·7689952	58,748	1,725
		·9909823					·9870582		
27	2·134	·9517723	89,490	1,909	46	3·077	·7560534	57,023	1,754
		·9906318					·9864268		
28	2·206	·9424041	87,581	1,933	47	3·148	·7424802	55,269	1,740
		·9903122					·9861086		
29	2·309	·9327163	85,648	2,009	48	3·164	·7285888	53,529	1,694
		·9896946					·9860368		
30	2·376	·9224109	83,639	1,987	49	2·986	·7146256	51,835	1,547
		·9895566					·9868344		
31	2·412	·9119675	81,652	1,969	50	2·894	·7014600	50,288	1,456
		·9893964					·9872461		
32	2·424	·9013639	79,683	1,932	51	2·881	·6887061	48,832	1,407
		·9893430					·9873042		
33	2·415	·8907069	77,751	1,878	52	2·936	·6760103	47,425	1,392
		·9893831					·9870582		
34	2·380	·8800900	75,873	1,805	53	3·052	·6630685	46,033	1,405
		·9895388					·9865389		
35	2·343	·8696288	74,068	1,736	54	3·297	·6496074	44,628	1,471
		·9897034					·9854399		
36	2·307	·8593322	72,332	1,668	55	3·532	·6350473	43,157	1,525
		·9898634					·9843833		
37	2·276	·8491956	70,664	1,609	56	3·763	·6194306	41,632	1,566
		·9900012					·9833421		
38	2·253	·8391968	69,055	1,556	57	3·993	·6027727	40,066	1,600
		·9901034					·9823029		
39	2·145	·8293002	67,499	1,447	58	4·227	·5850756	38,466	1,626
		·9905830					·9812431		

TABLE V.—*Continued.*

Age.	Mortality per Cent $= d$.	$\lambda\left(1-\frac{d}{100}\right)=c$ $5+\Sigma(c)=\lambda a$	a = Number Living.	Number Dying.	Age.	Mortality per Cent $= d$.	$\lambda\left(1-\frac{d}{100}\right)=c$ $5+\Sigma(c)=\lambda a$.	a = Number Living.	Number Dying.
59	4·520	·5863187 ·9799124	36,840	1,665	80	18·384	·6738961 ·9117753	4,720	868
60	4·812	·5462311 9·9785822	35,175	1,693	81	19·701	·5856714 ·9047101	3,852	759
61	5·094	4·5248133 9·9772937	33,482	1,705	82	21·083	·4903815 ·8971706	3,093	652
62	5·357	·5021070 ·9760885	31,777	1,703	83	22·762	·3875521 ·8878310	2,441	556
63	5·593	·4781955 ·9750042	30,074	1,682	84	24·080	·2753831 ·8803562	1,885	454
64	5·968	·4531997 ·9732757	28,392	1,694	85	25·672	·1557393 ·8711524	1,431	367
65	6·368	·4264754 ·9714243	26,698	1,700	86	27·262	3·0268917 ·8617614	1,064	290
66	6·788	·3978997 ·9694718	24,998	1,697	87	28·862	2·8886531 ·8521017	774	224
67	7·223	·3673715 ·9674403	23,301	1,683	88	30·567	·7407548 ·8415659	550	168
68	7·671	·3348118 ·9653381	21,618	1,658	89	32·112	·5823207 ·8317930	382	122
69	8·228	·3001499 ·9627102	19,960	1,643	90	33·802	·4141137 ·8208449	260	88
70	8·813	·2628601 ·9598329	18,317	1,618	91	35·282	·2349586 ·8110251	172	61
71	9·487	·2226930 ·9567110	16,699	1,584	92	36·557	2·0459837 ·8023837	111	40
72	10·203	·1794040 ·9532618	15,115	1,542	93	37·629	1·8483674 ·7949827	71	27
73	11·026	·1326658 ·9492631	13,573	1,497	94	38·467	·6433501 ·7891081	44	17
74	11·909	·0819289 ·9449315	12,076	1,438	95	39·051	·4324582 ·7849666	27	11
75	12·881	4·0268604 ·9401129	10,638	1,370	96	39·635	1·2174248 ·7807852	16	6
76	13·874	3·9669733 ·9351343	9,268	1,286	97	40·219	0·9982100 ·7765632	10	4
77	14·957	·9021076 ·9296386	7,982	1,194	98	40·803	·7747732 ·7722991	6	2
78	16·040	·8317462 ·9240724	6,788	1,089	99	41·387	·5470729 9·7679940	4	2
79	17·191	·7558186 ·9180775	5,699	979	100	41·971	0·3150669	2	

From this has been constructed the following preparatory table for the determination of the values of annuities, assurances, and other risks on the lives of master mariners. Column D of Table VI. has been formed from the expression ${}^{m}a\,v^{m}$, in which ${}^{m}a$ represents the numbers living at the age m in the fourth column of Table V., and v^{m} represents the present value of 1*l.* due m years hence, at 3 per cent. Also, if

D_m = quantity in col. D, at any given age m, and

D_{m+x} = do. do. at any variable higher age $m+x$

then, in the same Table, will $N_m = \Sigma\,(D_{m+x})$, in which $m+x$ receives every integral value from any given age, to the oldest age in the table.

TABLE VI.

Age.	λ·D	D	N	Age.	λ·D	D	N
21....	4·7304183	53754·92	924568·52	61....	3·7417426	5517·50	45291·41
22....	·7105585	51352·14	873216·38	62....	·7061991	5083·92	40207·49
23....	·6902836	49009·88	824206·50	63....	·6694503	4671·43	35536·06
24....	·6695977	46730·20	777476·30	64....	·6316173	4281·71	31254·35
25....	·6485048	44514·84	732961·46	65....	·5920558	3908·91	27345·44
26....	·6270222	42366·46	690595·00	66....	·5506429	3553·39	23792·05
27....	·6051672	40287·21	650307.79	67....	·5072774	3215·71	20576·34
28....	·5829618	38279·11	612028·68	68....	·4618805	2896·55	17679·79
29....	·5604368	36344·34	575684·34	69....	·4143814	2596·46	15083·33
30....	·5372942	34458·32	541226·00	70....	·3642544	2313·42	12769·91
31....	·5140135	32659·80	508566·22	71....	·3112500	2047·62	10722·29
32....	·4905727	30943·73	477622·49	72....	·2551238	1799·38	8922·91
33....	·4670785	29314·23	448308·26	73....	·1955484	1568·73	7354·18
34....	·4436244	27773·10	420535·16	74....	·1319743	1355·11	5999·07
35....	·4203259	26322·42	394212·74	75....	3·0640685	1158·96	4840·114
36....	·3971921	24956·98	369255·76	76....	2·9913442	980·267	3859·847
37....	·3742183	23671·09	345584·67	77....	·9136413	819·674	3040·173
38....	·3513823	22458·58	323126·09	78....	·8304427	676·772	2363·401
39....	·3286484	21313·19	301812·90	79....	·7416778	551·668	1811·733
40....	·3063942	20248·56	281564·34	80....	·6469181	443·525	1368·208
41....	·2842687	19242·82	262321·52	81....	·5458562	351·444	1016·764
42....	·2619879	18280·49	244041·03	82....	·4377291	273·986	742·778
43....	·2393118	17350·49	226690·54	83....	·3220624	209·924	532·854
44....	·2160668	16446·24	210244·30	84....	·1970562	157·419	375·435
45....	·1913201	15535·31	194708·99	85....	2·0645752	116·031	259·4037
46....	·1655411	14640·00	180068·99	86....	1·9228904	83·7318	175·6719
47....	·1391306	13776·24	166292·75	87....	·7718146	59·1309	116·5410
48....	·1124020	12953·94	153338·81	88....	·6110790	40·8394	75·7016
49....	·0856016	12178·72	141160·09	89....	·4398077	27·5301	48·1715
50....	·0595988	11470·93	129689·16	90....	·2587635	18·1453	30·0262
51....	·0340076	10814·53	118874·63	91....	1·0667712	11·6620	18·3642
52....	4·0084746	10197·05	108677·58	92....	0·8649590	7·32755	11·03665
53....	3·9826956	9609·38	99067·20	93....	·6545055	4·51342	6·52323
54....	·9563973	9044·76	90022·44	94....	·4366510	2·73307	3·79016
55....	·9289999	8491·80	81530·64	95....	0·2129219	1·63276	2·15740
56....	·9005460	7953·27	73577·37	96....	9·9850512	·96616	1·19124
57....	·8710509	7431·06	66146·31	97....	·7529992	·56624	·62500
58....	·8405166	6926·54	59219·77	98....	·5167252	·32864	·29636
59....	·8089224	6440·54	52779·23	99....	·2761877	·18888	·10748
60....	3·7759976	5970·32	46808·91	100....	9·0313444	·10748	·00000

From Table V. preceding, and Table C, "Contributions to Vital Statistics," the following results have been obtained, shewing for different ages the equation of life for master mariners, and also for the male population of England and Wales.

Ages.	Equation of Life.		
	Mariners.	England and Wales.	Difference, per Cent.
21.....	29·1	44·0	51·2
30.....	25·0	36·5	46·0
40.....	20·9	28·8	37·8
50.....	15·5	21·2	36·8
60.....	10·5	14·3	36·2

The foregoing is sufficient to show the necessity of great caution in undertaking special risks on life, and the need of careful and extended statistical research, to form a basis for calculations in this branch of life contingencies. Within the last five or six years, Assurance Institutions have very much increased, and the public journals sufficiently testify to the remarkable efforts made by them to extend their business among all ranks and grades of society. It is, therefore, of the first importance that those entrusted with the management of such companies, should possess accurate statistical information, to guide them in their transactions with the public. The practice of a mere arbitrary imposition of premiums for special risks unfortunately prevails to too great an extent, and is liable to very serious objections. The hazard of charging inadequate terms, may endanger the safety of the institutions, and exorbitant rates limit the practice of life assurance, while the want of clear and satisfactory data, produces distrust among the managers themselves, and deprives their efforts of that confidence and energy, which is necessary to the successful development of every enterprise. It is, therefore, hoped that the preceding facts may not be void of practical value and importance, while to the mere scientific inquirer, their novelty will recommend them to some share of attention.

It has been thought better to submit a complete analysis of one class of facts, than to bring under review a variety of data in a cursory manner, but it may be satisfactory to view, in connection with the preceding data derived from the Master Mariners' Society exclusively, another body of facts originating in other sources, namely, in the other Mariners' Friendly Societies distributed over the kingdom, and embracing, generally, a humbler class of sea-faring men, than the master mariners.

Ages.	Number exposed to risk.	Deaths.	Mortality, per Cent.	Mortality, per Cent., in the Master Mariners' Society. (Abstract A.)
20—25.....	1,562	39	2·4968	1·791
26—30.....	5,060	108	2·1343	2·206
31—35.....	6,842	167	2·4408	2·415
36—40.....	7,549	184	2·4374	2·253
41—45.....	5,783	152	2·6283	2·368
46—50.....	3,227	104	3·2228	3·164
51—55.....	1,716	62	3·6130	3·052
56—60.....	651	12	1·8433	1·911
61—65.....	119	2	1·6882	....
Total.....	32,509	830	2·5531	2·423

The rate of mortality, it will be seen, differs but slightly in the two classes of results, and calls for no particular commentary. Connected with this last body of facts, there has also been made a return of the amount of sickness or invaliding, but the discussion of that part of the inquiry must be reserved for another occasion.

On a Comparative Statement of Prices and Wages during the Years from 1842 *to* 1849. By G. R. Porter, F.R.S.

[Read before the Statistical Section of the British Association for the Advancement of Science, 17th September, 1849.]

Although it is forbidden to the Statistical Section of the British Association to discuss the propriety of public measures while they are under discussion by the Government or Legislature, it falls strictly within its province to ascertain and to exhibit the result of such measures after they shall have been adopted and are in operation, provided their effects are capable of being exhibited through the medium of numbers or by means of computations.

The propriety of this distinction is very apparent. The Association is not a political body, but one where persons professing all shades of opinion meet for the prosecution of objects in which all have an equal interest, and in regard to which, although differences of opinion may and will arise, and give occasion for discussion, the controversies will be carried on without exciting those unfriendly feelings which but too often rise up between persons who take different sides upon matters connected with public policy.

The subject which I have chosen for investigation upon this occasion affords a very decided example of the distinction here drawn. If, while the measures for bringing about a revolution in the long-cherished commercial policy of this country were under discussion in the Legislature, any attempt had been here made to approach the question, it would have been hardly possible to avoid the giving of offence to one party or another; whereas now that those measures have been extensively carried out into practice, it is felt to be an inquiry of the deepest interest to all, whether they have been productive of any and of what result to the great bulk of the community. In the prosecution of that inquiry, on this occasion, there can be no danger of giving offence to any one, so long as it shall be confined to actual facts as exhibited in figures that are capable of verification, and while no attempt is made to press them into the service of party disputation.

The usefulness, not only to ourselves, but to those who will come after us, of records such as those a sample of which I have now to bring forward, will be apparent to every one who has at any time attempted to investigate the comparative condition at different periods of our working population. About sixteen years ago I undertook such an investigation, and had then to lament the difficulty, not to say the impossibility, of collecting any considerable amount of information upon which reliance could be placed, so that my labours were, on that occasion, far from satisfactory. The result, such as it was, appeared anonymously in the "Companion to the Almanac for 1834," in a paper under the title "Wages and Prices," and I then indulged the hope that some of the readers of that most valuable collection, seeing the deficiency of such information for times past, might be led to record the like facts as they should arise in the future. I regret to say, that in this hope I have been disappointed. Again, at the meeting of the Association at Liverpool, in 1837, I took occasion to mention the deficiency to a very numerous body then in attendance upon the Statistical Section, and received many promises of assistance. Those promises were, I doubt

not, given in all sincerity, and yet I am forced to add, that to this hour they remain in every instance unfulfilled. Had the result been different, I might now have been enabled to offer to the Section something better worthy of their attention than the imperfect figures which I have it in my power to bring forward. Imperfect as they are, however, they may supply a link, which otherwise might be found wanting, to future inquirers, as well as enable us, in some degree, to mark the condition of our industrious classes at the present time in comparison with bygone periods.

To begin with what is emphatically called "the staff of life," and the price of which is a thing of the very first importance to those who depend upon daily or weekly wages. The four-pound loaf of bread sold in the bakers' shops in London, has been, in the month of July of each year from 1842 to 1849, as follows:—

1842	9½*d.*	1846	8½*d.*
1843	7½	1847	11½
1844	8½	1848	7½
1845	7½	1849	7

When it is considered that from one-half to three-fourths of the earnings of the most numerous class of the people is expended for this one article, it cannot be held of light importance that a saving of 25 per cent. is made in its cost. Such a saving, to the family of a working man, consisting of himself, his wife, and four children, can hardly be less than two shillings per week, which is too often a very considerable proportion of the man's earnings, so that it will greatly depend upon this head of expenditure whether or not he and his family are able to provide themselves with decent clothing and with other matters, which, although perhaps not absolutely nor equally necessary to the support of life, are yet most important towards the comfort and contentment of the family.

The price of meat is, unfortunately, not a matter of such universal interest as the cost of bread, and it is to be feared, that even in ordinarily prosperous times, there are very many of our fellow subjects who are forced to forego its use. But it must be obvious that the numbers thus subjected to privation will, as already explained, greatly depend upon the cost of bread, while in large towns, it will be found upon inquiry, that few or none are, except in the very dearest times, deprived of the occasional, or perhaps the habitual, use of meat.

The prices as quoted in the accounts of markets cannot be taken as the prices actually paid for their retail purchases by the families of working men; they will, however, afford accurate means for comparison, since no doubt the wholesale price of the carcase must govern the retail prices charged for its constituents. The following prices are those given for the primest beef (Scots) and South Down mutton, at Smithfield, in the month of June in each year, 1842 to 1849:—

	Beef.		Mutton.			Beef.		Mutton.	
	s.	*d.*	*s.*	*d.*		*s.*	*d.*	*s.*	*d.*
1842	4	8	4	3	1846	3	9	4	3
1843	3	10½	4	1¼	1847	5	6	5	7
1844	3	8½	3	10	1848	3	10	4	11
1845	4	4	4	9	1849	3	5	4	2

The prices paid for beef and mutton at St. Thomas's Hospital, in the same years, at Lady-day and Michaelmas, have been as follows:—

	Beef.		Mutton.	
	Lady-Day.	Michaelmas.	Lady-Day.	Michaelmas.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
1842.....	3 4	3 0	3 8	3 4
1843.....	2 8	3 0	3 0	3 4
1844.....	2 8	2 8	3 0	3 4
1845.....	2 8	3 4	3 4	4 0
1846.....	3 8	3 4	4 4	4 0
1847.....	3 8	3 10	4 4	4 6
1848.....	4 0	3 4	4 8	4 0
1849.....	3 0	....	3 8	....

The retail prices paid by the working classes for other articles of food, and for groceries, in a populous district of London, from 1844 to 1848, were as under:—

	1844.	1845.	1846.	1847.	1848.
Tea..... per lb.	5*s.* to 7*s.*	5*s.* to 7*s.*	5*s.* to 7*s.*	4*s.* to 6*s.*	4*s.* to 6*s.*
Raw Sugar..... ,,	6*d.* to 7*d.*	5*d.* to 6*d.*	5*d.* to 6*d.*	4*d.* to 5*d.*	4*d.* to 5*d.*
Refined Sugar... ,,	7½*d.* to 8½*d.*	6½*d.* to 7½*d.*	6½*d.* to 7½*d.*	5½*d.* to 6½*d.*	5*d.* to 6*d.*
Coffee..... ,,	1*s.* 8*d.* to 2*s.* 6*d.*	1*s.* 8*d.* to 2*s.* 6*d.*	1*s.* 8*d.* to 2*s.* 6*d.*	1*s.* 4*d.* to 2*s.*	1*s.* 4*d.* to 2*s.*
Cocoa..... ,,	6*d.* to 8*d.*	6*d.* to 7*d.*	6*d.* to 7*d.*	6*d.* to 7*d.*	6*d.* to 7*d.*
Rice ..... ,,	2*d.* to 3*d.*	2*d.* to 4*d.*	3*d.* to 4*d.*	3*d.* to 4*d.*	2*d.* to 3*d.*
Currants ..... ,,	5*d.* to 7*d.*	5*d.* to 7*d.*	5*d.* to 7*d.*	5*d.* to 7*d.*	4*d.* to 6*d.*
Raisins ..... ,,	5*d.* to 7*d.*	5*d.* to 7*d.*	5*d.* to 7*d.*	4*d.* to 6*d.*	4*d.* to 6*d.*
Butter ..... ,,	....	10*d.*	10*d.*	10*d.*	9*d.*
Cheshire Cheese ,,	....	9*d.*	9*d.*	9*d.*	9*d.*
Derby Cheese... ,,	....	8*d.*	8*d.*	8*d.*	8*d.*
Dutch Cheese... ,,	....	6*d.*	6*d.*	6*d.*	6*d.*
Lard ..... ,,	....	9*d.*	9*d.*	10*d.*	10*d.*
Bacon .....per cwt.	....	62*s.* to 68*s.*	63*s.* to 70*s.*	82*s.* to 88*s.*	75*s.* to 81*s.*
Eggs.....per 120	....	7*s.* 6*d.*	7*s.* 6*d.*	7*s.* 6*d.*	7*s.* 6*d.*

The retail prices of such articles, of the qualities usually consumed by the working classes at Birmingham, during the years from 1844 to June, 1849, have been kindly procured for me by a much respected inhabitant of this town:—

	1844.	1845.	1846.	1847.	1848.	June, 1849.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Tea..... .....per lb.	5 0	5 0	5 0	5 0	4 6	4 0
Sugar, raw..... ,,	0 7	0 6½	0 5½	0 5½	0 5	0 4½
——— refined.. ,,	0 9	0 9	0 8	0 7½	0 6½	0 6
Coffee..... ,,	1 8	1 8	1 8	1 8	1 6	1 4
Cocoa..... ,,	0 10	0 8	0 8	0 8	0 8	0 7
Rice, Patna .... ,,	0 3	0 3	0 3	0 4	0 3	0 2½
Oatmeal..... ,,	0 3	0 3	0 3	0 3½	0 3	0 3
Currants ..... ,,	0 6	0 6	0 6	0 7	0 6	0 6
Raisins ..... ,,	0 6	0 6	0 6	0 6	0 5	0 5
Butter ..... ,,	0 10	0 11	1 0	1 0	1 0	0 10
Eggs, No. of, for 1*s.*	20	20	20	20	20	24

In the course of inquiries made among London tradesmen, while collecting the foregoing list of prices, it was stated that as respects cheese, the working classes seldom or never buy it by weight, but apply at the shop for six-pennyworth, or three-pennyworth, or whatever may be the sum to be laid out, the dearness or cheapness of the article affecting the quantity that they receive for their money. Another fact of the same nature was ascertained from the proprietor of a very large establishment for the sale of linens, woollens, haberdashery, and the like goods. The working man or woman is accustomed to pay certain prices for certain articles, and does not vary the outlay with the varying markets, but buys a 3*s.* or 5*s.* hat or bonnet, a shirt or shift for so much, and so on through the whole list of articles of clothing. The benefit of cheapness reaches them in the quality of their purchases, and as the tendency has for very many years been towards lessened prices, we now see—such, at least, is the case in London—that the working classes are better clad than formerly, keeping in this respect their relative position with the more easy classes, whose dress—especially among ladies—is generally not only better in quality, but actually more costly, than when the articles used were of much higher price than now. When engaged upon an inquiry similar to the present, fifteen years ago, I was informed by a person who gave constant employment to 1,200 people, men and women, in making up articles of clothing used by the working classes, that, taking one article with another, the materials used then cost not more than one-half what they had cost at the close of the war in 1815, and we know that since 1834, there has been a further and very great abatement in the cost of most, if not all, such materials. Strong cotton cloths, the wholesale price of which in 1810 was 10*d.* per yard, sold in 1820 for 9*d.*, had fallen in 1833 to 4*d.*, and may now be bought at from 2*d.* to 2½*d.* per yard. Printed calico, which sold in 1810 at 2*s.* 2*d.*, in 1820 at 1*s.* 4*d.*, in 1833, the Excise duty having been removed, at 6*d.* to 8*d.*, may now be bought at from 3*s.* 6*d.* to 8*s.* per piece of 28½ yards, or from 1½*d.* to 3½*d.* per yard. The increased use of cotton in this country, so far beyond the increase in our export of cotton goods, proves that the people, and especially the working people, who are the great consumers of cotton goods among us, have fully profited by their progressive cheapening.

The consumption of such articles as are of home production, we have no satisfactory means of determining, but we may feel quite certain, that as respects such of them as are articles of necessity, as well as those which have become so through the usages of society, a fall in price when unaccompanied by circumstances that oppress the people, must be accompanied by an increase in their use. If we had any doubts upon this head, they must, however, be dispelled when we find that other articles of which, being brought from distant countries, we know the quantities used, are so used in greatly increased quantities. The consumption in each year from 1842 to 1848 of such of the articles of which retail prices have been given as are imported, have been:

	1842.	1843.	1844.	1845.	1846.	1847.	1848.
Sugar .....cwts.	3,868,466	4,028,307	4,129,443	4,856,604	5,220,248	5.779,508	6,208,872
Tea ..... lbs.	37,355,911	40,293,393	41,363,770	44,193,433	46,740,344	46,314,821	48,735,971
Coffee ..... „	28,519,646	29,979,404	31,352,382	34,293,190	36,754,578	37.441,373	37,106,292
Cocoa ..... „	2,246.569	2,547,934	2,589,977	2,579,497	2,951,206	3,079,198	2,935,479
Rice .....cwts.	396,922	315,359	432,480	372,274	545,883	971,694	925,731
Currants ..... „	196,379	254,330	284,694	309,485	358,761	331,236	380.500
Raisins ..... „	186,240	236,826	202,230	204,960	238,255	212,024	228,542

It appears thus, that a reduction in the retail price of sugar from 7*d.* to 4½*d.* for raw, and from 9*d.* to 6*d.* for refined sugar, has increased the consumption, since 1844, by 2,079,429 cwt. or 50 per cent. The reduction of 1*s.* per lb. in tea, viz. from 5*s.* to 4*s.*, has caused an additional consumption of 7,372,201 lbs., or 18 per cent. The retail price of coffee has fallen from 1*s.* 8*d.* to 1*s.* 4*d.*, and the consumption has been augmented by 5,753,910 lbs., or 18 per cent.; thus adding very materially to the comforts of the working classes, and chiefly the artisan class, among whom the increased quantities here noticed have principally been used.

I have been kindly favoured with a statement of prices actually paid at St. Thomas's Hospital in London, for various articles of constant consumption there in each quarter of the year, from 1842 to the present time, and have appended the same to these remarks. The prices are of course below those which are paid by individuals in their daily retail purchases, but they will better serve to show the variation in the markets, and may therefore be found useful.

From what has been already stated, we might almost necessarily infer, that the people generally are in a condition of comparative comfort. If it were desired to ascertain the condition of the upper and middle classes of society, we should have to investigate the increase or decrease of luxuries, since the quantities which these classes consume of the articles of daily use, already mentioned, may be considered to vary in only a very small degree, if at all, with the varying condition of the nation at large. That the use of sugar, and tea, and coffee, for example, has greatly augmented, affords ample evidence, that the very large proportion of our numbers who depend for the support of themselves and their families upon their employment by the possessors of capital, have been enabled to enjoy more of the comforts of life than heretofore, and that the state of the population, generally, is such as should impart to us a feeling of satisfaction. It may be well, however, to show what have been the weekly earnings of some classes of our artisans, and I have again to express regret at the small, and, in that respect, unsatisfactory amount of information, which it has been possible to procure on that head. This is, on the present occasion, confined to iron-works and cotton-mills, and I will close what I have to offer, by venturing to call upon such of my auditors as may have it in their power, to add to the scanty sum of our knowledge upon this really very important head, either by publishing the same to the world themselves, or by enabling some other persons to render that service. For my own part, I shall esteem it as a personal favour, if any gentleman will at any time communicate to me, from his own experience, such information as he may possess, showing the earnings of any classes of workmen.

A Return of the Prices of the undermentioned Articles used at St. Thomas's Hospital, Southwark.

	Beef, without bone.	Mutton, Legs and Loins.	Butter, Carlow.	Cheese, Double Gloster.	Sugar.	Salt.	Potatoes.	Rice.	Pure Milk.
	Per Stone.	Per Stone.	Per Cwt.	Per Cwt.	Per Cwt.	Per Cwt.	Per Cwt.	Per Cwt.	Per Gallon.
1842.	*s. d.*	*s. d.*	*s.*	*s.*	*s.*	*s. d.*	*s.*	*s. d.*	*s. d.*
March	3 4	3 8	96	60	78	5 0	....	33 0	1 0
June.....	3 0	3 4	94	56	78	5 0	....	33 0	1 0
September	3 0	3 4	94	56	78	5 0	....	33 0	1 0
December	2 8	3 0	94	56	78	5 0	....	33 0	1 0
1843.									
March	2 8	3 0	94	56	76	5 0	....	33 0	1 0
June.....	2 8	3 0	94	56	76	5 0	....	33 0	1 0
September	3 0	3 4	84	56	76	5 0	....	33 0	1 0
December	2 8	3 0	88	56	76	5 0	....	33 0	1 0
1844.									
March	2 8	3 0	88	56	68	4 6	....	32 0	1 0
June.....	2 8	3 4	88	56	74	4 6	....	32 0	1 0
September	2 8	3 4	88	56	74	4 6	....	32 0	1 0
December	2 8	3 4	106	56	74	4 0	....	30 0	1 0
1845.									
March	2 8	3 4	106	56	62	4 0	....	30 0	1 0
June.....	3 4	4 0	100	56	62	4 0	....	30 0	1 0
September	3 4	4 0	94	56	64	4 0	....	43 0	1 0
December	3 4	4 0	104	56	64	4 0	....	35 0	1 0
1846.									
March	3 8	4 4	104	56	64	4 6	....	35 0	1 0
June.....	3 4	4 0	90	56	64	3 9	....	33 0	0 9
September	3 4	4 0	102		58	3 6	6	28 0	0 9
December	3 8	4 4	106		53	3 6	9	28 0	0 9
1847.									
March	3 8	4 4	106		59	3 6	12	30 0	0 9
June.....	4 4	5 0	102		59	3 6	20	28 0	0 10
September	4 0	4 8	104		54	3 6	6	26 0	0 10
December	4 4	5 0	104		54	3 6	7	21 0	0 10
1848.									
March	4 0	4 8	104		54	3 6	8	19 0	0 10
June.....	3 8	4 4	100		54	3 6	8	17 0	0 9½
September	3 4	4 0	94		54	3 6	8	18 6	0 9½
December	3 2	3 10	94		54	3 6	8	....	0 9½
1849.									
March	3 0	3 8	94		54	3 6	8	16 0	0 9½
June.....	2 8	3 4	88		54	3 6	8	....	0 9½
September	....	....	....		....	....	....	....	....
December	....	....	....		....	....	....	....	....

Discontinued as an article of diet.

1st May, 1846. Milk purchased by contract, from Romford, Essex; sent by Eastern Counties Railway.

It is hardly possible to over-estimate the importance of the subject to which I have now ventured, imperfectly, to call the attention of the section. So long as, in any country, the whole earnings of the labouring classes are required to procure for them the bare necessaries of life, we must look in vain for any advancement in the social and moral condition of the people. On the other hand, if their earnings are habitually found sufficient, not merely to sustain life, but to provide for themselves and their families its decencies and some of its comforts, and especially if this shall have been their condition for any continued period of time, they will not willingly fall back in the scale of civilization, but rather will strive to go foward, and among other efforts to that end, will gladly avail themselves of such means as they may find within their reach, to give instruction to their children, whereby their intelligence being cultivated, their labour will be rendered more productive, and of necessity will be better remunerated, thus enabling them to make further progress in the social scale, and to provide the means of still greater advancement for those who will succeed them.

MANCHESTER.

Net Weekly Earnings of Factory Hands in Full Employment and also during the Period of Depression in each of the following Years.

	1844.	1845.	1846.	1847.	1848.	1849.	
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	
Card Room—Males	13 6½	13 8	11 4	7 9	12 0	12 0	This is a good mill, on coarse work; and one which I think may be considered a fair average of wages.
Females....	8 9¼	8 10	6 6	3 4	8 9	8 6	
Spinners and Piecers	10 0½	12 0	11 10	6 10	11 7	12 0	
Power-Loom Weavers* Male and Female	10 1	9 9	8 10	4 10	9 0	9 5	
Power-Loom Helpers....	4 7	4 6	4 3	2 0	4 8	4 8	
Mechanics	22 4	20 6	20 8	18 1	19 6	19 3	

* Working two looms only.

Weekly Wages paid in the Years 1844 *and* 1849.

	1844.	1849.	
	s. d.	*s. d.*	
Card Room—Males	15 0	12 0	
Females	7 6	7 6	This is solely a spinning mill; no weaving; a very respectable establishment; coarse work.
Self-Acting Spinners	14 0	15 6	
Ditto Piecers.....	7 0	7 9	
Throstle Spinners—Females	8 0	7 6	
Mechanics	28 0	28 0	

Average Weekly Wages for each Individual in the following Years.

Year.	Per head.	
	s. d.	
1844	10 4¼	This is a mill producing fine yarns; it worked full time during a period of depression. It would appear from this, that in 1844-5-6, when the hours for working were 69 per week, the average earnings per head for the three years were 10*s.* 5¾*d.*, which have become, in 1849, for 58 hours' work, 9*s.* 10½*d.*, making a difference of 7¼*d.* per head, or 5¾ per cent., whilst the difference between 1844 and 1849 is 5¾*d.* or 4¾ per cent., the difference in the hours being 16 per cent.
1845	10 10¼	
1846	10 3	
1847	10 9¾	
1848	10 3¼	
1849	9 10½	

Average Weekly Earnings of Workmen employed at an Iron Work in South Wales, from 1844 *to* 1849.

	1844.		1845.		1846.		1847.		1848.		1849.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Colliers	13	0	16	2	20	4	20	2	16	1	14	3
Miners	10	7	12	4	15	7	15	9	12	1	10	9
Labourers	11	0	11	0	12	8	13	9	11	10	11	0
Founders	23	9	26	11	33	8	33	5	35	0	30	4
Fillers	22	0	25	10	29	10	31	3	32	7	30	4
Cinder Fillers	21	0	19	0	21	8	23	6	22	11	21	1
Refiners	37	8	39	3	51	2	40	7	48	9	39	6
Puddlers	22	7	30	6	35	8	32	4	30	11	25	7
Ballers	22	2	32	7	45	1	38	8	31	7	23	0
Rollers	33	7	58	10	72	0	80	0	60	9	35	6
Rail Straighteners	20	2	35	5	49	7	47	8	36	8	18	2

Table of Wages Paid to Different Classes of Workmen at an Iron Work in Staffordshire, in June of each Year, from 1844 *to* 1849, (*probable earnings in a period of* 12 *hours*).

	1844.	1845.	1846.	1847.	1848.	1849.
Colliers—Thick Coal	4*s.* 6*d.*	5*s.* 6*d.*	6*s.* to 7*s.*	6*s.* to 7*s.*	5*s.*	4*s.* 6*d.*
Ditto Thin Coal	3*s.* 8*d.*	4*s.*	4*s.* to 5*s.*	5*s.*	3*s.* to 3*s.* 6*d.*	3*s.* to 3*s.* 3*d.*
Miners	3*s.* 3*d.*	4*s.*	4*s.* to 5*s.*	5*s.*	3*s.* 6*d.*	3*s.* 3*d.*
Boys	1*s.* to 2*s.*	1*s.* to 2*s.* 6*d.*	1*s.* to 3*s.*	1*s.* 6*d.* to 3*s.*	1*s.* to 2*s.*	1*s.* to 2*s.*
Blast Furnace Men—						
Keepers	5*s.*	6*s.* 6*d.*	7*s.*	7*s.* 6*d.*	4*s.* 6*d.*	4*s.*
Fillers	3*s.* 6*d.*	4*s.* 6*d.*	5*s.*	5*s.*	3*s.* 10*d.*	3*s.* 4*d.*
Bridge Stockers, &c.	3*s.*	3*s.* 6*d.*	4*s.*	4*s.*	3*s.*	2*s.* 6*d.*
Forge and Mill Men—						
Puddlers—1st hands	6*s.*	...	8*s.*	8*s.*	7*s.*	5*s.* 6*d.*
Ditto 2nd „	2*s.* 6*d.* to 4*s.*	...	...	3*s.* to 5*s.*	2*s.* 6*d.* to 4*s.*	2*s.* 4*d.* to 3*s.* 8*d.*
Rollers—1st hands	...	...	...	8*s.* to 15*s.*	6*s.* to 12*s.*	5*s.* to 10*s.*
Ditto assistants	...	...	...	4*s.* to 5*s.*	3*s.* 4*d.* to 4*s.*	3*s.* to 3*s.* 6*d.*
Heaters	...	...	...	8*s.* to 10*s.*	6*s.* to 8*s.*	5*s.* to 7*s.*
Ditto assistants	...	...	...	4*s.* to 5*s.*	3*s.* 4*d.* to 4*s.*	3*s.* to 3*s.* 8*d.*
Engine Keepers	...	4*s.*	...	...	3*s.* to 4*s.*	3*s.* to 3*s.* 10*d.*
Blacksmiths	...	4*s.* 6*d.*	...	...	3*s.* to 4*s.* 6*d.*	3*s.* to 4*s.*
Carpenters	...	3*s.* 6*d.*	...	...	3*s.* 6*d.*	3*s.* 4*d.*
Labourers	...	2*s.* 4*d.*	...	...	2*s.* 2*d.*	2*s.* 2*d.*

Average Weekly Earnings in an Iron Work, in each Year, from 1846 *to* 1849.

	1846.		1847.		1848.		1849.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Colliers	19	10	20	0	19	5	16	3
Miners	19	1	19	0	16	0	13	11
Patchmen and Labourers	13	3	11	8	10	10	10	6
Masons, Smiths, and Carpenters	14	9	15	4	13	3	12	7
Fillers of Furnaces	30	0	35	0	29	9	25	11
Cinder Fillers	22	0	29	2	23	4	20	3
Founders	30	0	35	0	29	9	23	11
Refiners	35	0	48	6	39	0	38	0
Puddlers—Master	30	0	31	0	25	0	23	0
2nd hand	18	0	18	6	15	1	13	0
Ballers	38	0	42	0	34	0	29	0
Rollers	62	0	72	0	49	0	36	0
Rail Straighteners	43	0	46	0	28	0	22	1
Day work at rails	16	0	17	7	17	0	15	6

Statement of the Workmen's Earnings at an Iron Work in North Wales, in each Year, from 1844 *to* 1849.

	1844.	1845.	1846.	1847.	1848.	1849.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Colliers, per stent, or under 8 hours' work	1 6	2 0	2 6	2 6	2 0	1 9½
Miners' earnings are from 1½*d.* to 2*d.* per stent below the Colliers.						
Labourers.....per week	8 6	9 6	12 0	12 0	11 0	10 0
Furnace Fillers..... ,,	14 6	15 6	19 0	18 6	18 6	17 6
Cinder Fillers ..... ,,	14 6	15 6	19 0	18 6	18 6	17 6
Furnace Keepers ..... ,,	19 6	23 0	28 0	27 0	23 0	22 0
Refiners ..... ,,	16 0	25 6	32 0	30 0	24 0	21 0
Puddlers ..... ,,	22 0	32 0	32 0	32 0	26 0	24 0
Heaters or Ballers ..... ,,	17 0	22 0	27 0	29 0	22 6	21 0
Rollers ..... ,,	30 0	47 0	76 0	77 0	46 0	44 6
Rail Straighteners..... ,,	30 0	24 0	30 0	30 0	24 0	16 0

The following are the Average Weekly Earnings of 230 *Hands employed in one Mill in Cotton Spinning, for each Year, from* 1846 *to* 1849.

1846. The earnings averaged 10*s.* 0*d.* per head of all ages and both sexes, of eight years of age and upwards, working 12 hours a day.

1847. ,, ,, 8 4½ } During these years, trade was bad, and the working of the mill averaged about 4 days a week.

1848. ,, ,, 8 2 }

1849. ,, ,, 9 4 Only 11 hours a day.

Proposal for preserving and making a general index of the Parish Registers anterior to 1837. By Rev. E. Wyatt-Edgell.

[Read before the Statistical Society of London, 19th November, 1849.]

The Parish Registers subsequent to 1837 possess little interest, inasmuch as they have been superseded by the Civil Registry. But the books prior to that date, which may now be looked upon as a completed series, are the only existing annals of some forty or fifty millions of human beings who have passed from the world; and it is therefore a matter not merely of interest, but of duty, to rescue such documents from the decay into which they are rapidly falling. The purpose of the present paper is to inquire how this may be best accomplished; and at the same time to consider whether the information contained in the Parish Registers, which has hitherto been used only for legal purposes, may not be so concentrated as to be rendered available for the higher purposes of literature and science.

Unless some measures are taken for preserving them, the older portions of our Parish Register books will soon become extinct. It is true that by the law of 1812, it was made imperative on every parish to provide an iron chest for the security of its books; and, as no expense was spared in carrying out this part of the Act, they are now

comparatively safe from fire or theft; but in every other respect their condition is most unsatisfactory. They are generally kept in private houses—the old and the new books thrown into the same chest with vestry-books, subscription lists and all the miscellaneous papers of the parish. They are consequently liable to be taken in and out every day, and it is impossible to doubt but that in the course of each year that passes many books must be torn or damaged, if not altogether lost. Our first inquiry therefore ought to be, how those which remain (and which are supposed to contain about one hundred million entries,) may be best preserved.

A writer in a late periodical proposed that all the existing books should be transcribed—that the transcripts should be, as nearly as possible, fac-similes of the originals—that the work should be performed under the superintendence of the clergyman, and that the expense should be paid by subscription amongst the wealthier inhabitants of the parish.

Perhaps all that can be said of this proposal is, that it is better than none: and in default of a more comprehensive plan emanating from the Legislature, we may hope that something of the kind will be adopted by the parochial clergy. But it is evident at the first glance, that this plan only applies to parishes which are peculiarly situated; where the amount of entries is small, and where there are a sufficient number of persons who take an interest in the subject: moreover, whilst it provides for the *preservation* of the Registers, it makes no provision for that which is quite as important, namely, the *concentration of the information which they contain.*

It is possible I conceive to combine both objects. And with this view I submit to your consideration the following scheme,—not a very practicable one it must be confessed; but still, could it be accomplished, a most effectual one.

I propose that all existing Registers from 1538, which is the date of their commencement, down to the year 1837, should be collected together in one or more convenient place, and copied. That the originals should then be deposited in a safe building—the library at Lambeth, or the new Record Office, or any other building which might be selected. That the copies (which should be rough copies, *i. e.*, copies of the names and dates only, not fac-similes or verbal transcripts of the original entries) should be cut into slips, and that these should be sorted and arranged in alphabetical order, so as to form three indexes, one for the baptisms, another for the marriages, and a third for the burials of the whole kingdom during the three centuries. Lastly, I propose that the indexes so formed should be printed, and a copy be given to each parish in return for the original manuscripts which were contributed by it.

The advantages of this scheme (admitting, for the sake of argument, its practicability,) are so obvious that I need but very briefly mention them.

1. The original manuscripts, which may amount perhaps to one hundred thousand, and which are now distributed amongst thirteen thousand dwellings, will by this scheme be transferred to a proper receptacle, where they will be safe from accidents and, as far as possible, from decay.

2. The archæologist, to whom the parish Registers as being almost the only documents now unexplored are exceedingly interesting, will be able to inspect them all concentrated in one spot, instead of searching for them throughout the kingdom.

3. Those who have occasion to trace a pedigree, whether for legal or historical purposes, will have the advantage of consulting *one index* at home instead of travelling in search of an indefinite number of unindexed manuscripts. Indeed, the difference in their case will amount to this, that they will *then be enabled to find* a pedigree, whereas all they can now do is to verify one *already* found. Moreover, the demand for certified copies of old entries which will thus be created will be, so far as it goes, advantageous to the Clergy.

4. The individual parishes will be benefited by this plan, because each will receive in return for a few manuscripts in which the parishioners took little or no interest, a *complete work* by reference to which every person may discover not only his birth and parentage, but also the record of his ancestors for twelve or fifteen generations back. This has hitherto been the privilege only of the very rich; but by the plan I propose it will be placed within the reach of all, even of the humblest peasant or mechanic whom curiosity or affection prompts to make the search.

I proceed now to consider the expense of arranging and printing such a general index of the registers as I have described. But before entering upon this calculation it is necessary to observe that the estimate, rough as it is, will exceed the truth: first, because there will be a great reduction in the cost of the work if the parchment transcripts which are now lying at the Chapter-houses of the several dioceses can be turned to account, (which will be the case when they are written only on one side); and secondly, because during the progress of so long and mechanical an operation as that of indexing one hundred million of names, new inventions for the division and abridgment of labour can hardly fail to be discovered, and the magnitude of the work in consequence diminished.

Without however reckoning upon either of these auxiliaries, I will proceed to calculate the expense by a comparison with what is now going on at the Registrar General's Office at Somerset House. At that office about a million and a quarter of names are every year arranged in alphabetical order and written out in the form of indexes. The work is performed by six clerks, who each receive 28*s.* per week, and by others who receive 17*s.* 6*d.* for every thousand entries transcribed and indexed; thus making a sum of 1,530*l.* for labour alone. At the same rate the labour of arranging one hundred million names will be 122,400*l.* The printing may be performed either on the principle of giving to each entry a separate line (as is done in court-guides and the subscription lists of charities,) or by printing the names and dates continuously (as is done in the index of the Gentleman's Magazine). According to the former method the cost of printing will be a halfpenny for each name, or nearly 210,000*l.* for the whole work. According to the latter method the whole will cost about 70,000*l.* Enormous sums doubtless, and such as will appear quite visionary when mentioned in connexion with parish Registers. But when it is

considered that the Civil Registry costs the nation *annually* more than the last-mentioned sum, and that the parishes* expend annually more than the interest of it in making parchment returns which are *utterly useless*, some indulgence may perhaps be accorded to a scheme which proposes, once for all, to rescue from oblivion the annals of three centuries.

Statistical Account of the Police of the Metropolis. By Joseph Fletcher, Esq., *Barrister-at-Law, Honorary Secretary.*

[Read before the Statistical Society of London, 18th March, 1850.]

Ancient Police of the City, a Model for the rest of the Metropolis and for the whole Country.

The original executive police of the city of London, deriving its origin from the earliest periods of our history, is yet in existence. This consists of the alderman, deputy (alderman), common councilmen, ward clerk, ward beadle, inquestmen, and constables† of the several wards, appointed by the freemen householders therein resident, who were formerly themselves, in rotation, the night watchmen. While all the duties of police continued to be performed by the inhabitants themselves, this common-law organization of the wards had for its main purpose that internal government of each for which it was originally designed. The wardmote or folkmote of the ward still appoints annually a leet jury of inquestmen for the whole year, who are a sort of council of police, to present all public nuisances and injuries to the city magistrates. Formerly, the constable of each precinct, similarly appointed, had to keep the alderman of the ward advertised of the presence of all new comers, so that his list of inhabitants and sojourners might always be perfect; and it was the duty of the alderman, with the assistance of that officer, to take order that none above twelve years of age should there abide without being put under frank pledge, and sworn to be faithful and loyal to the king's majesty, in such sort as by the law and custom of the City he ought to be; he was also to see that if any alien born, though naturalized, were called upon the watch, he should not serve, but be compelled to find an Englishman to be his substitute. The alderman was likewise to make provision in his ward of a pair of stocks and a whipping-post, and of fire-buckets, ladders, &c.; to see that the streets were kept clean; that hucksters of ale and beer kept orderly houses, and closed them at ten o'clock at night in summer, and nine in winter; to order that lanterns with lights should be hung out by night, as in old manner accustomed, and that no man should go by night without light, or with vizard; to search out and punish all vagrants; and to return lists of

* The iron chests before-mentioned could not, in 1812, have cost less than 50,000*l.*, a sum which would have gone some way towards carrying out this scheme.

† By the City Police Act the latter office is placed in abeyance, and virtually it is extinguished, except in so far as it may be regarded as continued in the private subscription watchmen recently appointed by the inhabitants of the several wards.

persons in his ward qualified by substance to serve on grand and on petty juries respectively*.

But with the progress of wealth and industry came a change of manners, and a subdivision of labour. By the close of the seventeenth century it was found very difficult to enforce "the ancient good and laudable custom of the city of London, whereby all persons which do dwell, occupy, or inhabit in any house within the same city or the liberties thereof, as well such as are not free, as other the freemen, being persons able and fit to watch, or to find an able and fit person to watch for him, her, or them, ought, by reason of their habitation, occupation, and dwelling, to keep watch within the ward wherein he, she, or they do occupy and inhabit, for the preservation of the king's peace, and the arresting and apprehending of all night-walkers, malefactors, and suspected persons, which shall be found passing, wandering, and misbehaving themselves;" the common council, on this system, declaring the number who ought to watch in each ward every night, under the direction of the constables of each, who were such for the whole city and liberties, as well as for their several wards†.

By the act of common council of 1693, reciting this custom, it is provided, that the alderman, deputy, and common councilmen of every ward, shall call out the inhabitants of each part of the ward in rotation, to the full number therein specified, on successive nights; and likewise appoint a certain place within their ward "where the constable and all the watchmen shall every night first meet for that night, and agree to what places they shall afterwards go to watch in the said ward, in such manner and order that the constables and watches of every ward may maintain a correspondence and intelligence with each other, and be ready, upon some sound or sign, to come, in an instant, if there be need, upon any disorder or other occasion, to the help and assistance of one another‡;" all which was enforced by strict regulations and heavy penalties, recoverable in the Lord Mayor's Court, for the benefit of the poor, by the agency of supervisors of the watch, two in number, also appointed by the aldermen, deputy, and common councilmen of each ward, for the behoof of that ward.

It was presently, however, found necessary to abandon all hope of getting the inhabitants themselves any longer to do watch and ward; and the statute of the 10th Geo. II., c. 22, was obtained, which, after reciting that, by the laws then in being, no effectual provision is made for such a nightly watch, or for defraying the charges thereof, empowers the mayor, aldermen, and commons of the City, in common council assembled, between the 1st October and 20th November in every year, to order and appoint what number of watchmen and beadles they shall judge necessary and proper to be kept within each of the several wards of the said city and the liberties thereof, in the year commencing from the 25th December following the order, and to direct how they shall be armed, how long they are to watch, what wages and allowances shall be given to them, and what number of

* Precept annually issued to the alderman of every ward by the mayor, to hold his wardmote for election of common councilmen and other officers.—Bohun, p. 383.

† Act of Common Council, Anno 1693.—Bohun, p. 138.

‡ Ibid., p. 143.

constables shall attend every night in each ward. The constables were to keep watch and ward within their respective wards, one or more together, as should be directed by the Court of Common Council, from ten in the evening to five in the morning during six months, from 10th March to 10th September, and during the remainder of the year, from nine to seven, which are the hours anciently accustomed; and in their several turns they were to use their best endeavours to prevent felonies, outrages, and disorders; to arrest all night-walkers, malefactors, and suspected persons; and twice, or oftener, in every night, to go about their ward and take notice whether the watchmen perform their duties, and to inform the alderman, or deputy of the ward, of any misbehaviour among them.

The same statute empowered the Common Council to assess each ward in the necessary sum; and, for the purpose of raising the assessment, the alderman, deputy, and common councilmen of each ward, separately, are to be directed to make an equal rate on every person inhabiting, holding, occupying, or enjoying any land, house, shop, warehouse, or other tenement within the ward (regard being had in making the rate to the abilities of the several inhabitants and occupiers, as well as to the rent paid by them), which rate is to be collected quarterly, on pain of distress or imprisonment for one month in the Compter, by warrant of the lord mayor or alderman of the ward, with an appeal to the Court of Mayor and Aldermen. Under this statute, an Act of Common Council, commonly termed, in the City, the Watch Act, was annually passed.

The Watch Acts, under which the night police of the City continued to be regulated until the passing of the recent Act instituting a police similar to that of the rest of the metropolis, divided the watchmen into three classes, viz., ordinary watchmen, patrolling watchmen, and superintending watchmen; the pay of the former being 3*d.* per hour while on their beats, and that of the others various in the different wards. The Watch Acts prescribed the amount of rate which the common councilmen of each ward were empowered to levy, but not prescribing the expenditure of the whole sum, which generally exceeded that required for the necessary expenses of the watch, the balances appear sometimes to have been applied by the ward council to purposes not within the Watch Act, such as the expenses of ward-motes. The whole sum granted under the Watch Act for 1833 appears to have exceeded 40,000*l.*; while the average sum expended on the watch was, at the same period, under 35,000*l.*

Thus, with funds at discretion, the nightly watch in each ward continued under the sole control of the ward authorities; and it is not surprising, therefore, that these little subordinate corporations strenuously opposed, individually and collectively, every measure which threatened to sweep away at once their little circle of power and patronage, and sometimes of profit. The efficiency of the watch in each ward, however, depended mainly on the degree of active superintendence exercised by each alderman or deputy; and there was little or no communication between one ward and another, as the watchmen were not authorized, except in a few particular cases, to pass the boundary of their own ward. And this want of combination was perpetuated almost to the last of the system, by dissentions on the

subject of the watch, between the Court of Aldermen, who claimed the entire superintendence of it, as belonging to their ancient magisterial office, as undoubtedly it did, so long as it was unpaid, and the Court of Common Council, which was not content to vote the raising of funds to be placed directly or indirectly under the sole management of the aldermen.

The commanders of the watch, under the general direction of the ward beadles, were the ward constables, some one of whom was at the watch-house all night. In most of the wards, too, a patrol was established, varying in number, whose duty it was to patrol the ward from four or five in the afternoon until the watch was set, and, in some of the wards, to continue their rounds throughout the night, as a check upon the watch. All the watchmen were appointed by the alderman and common councilmen of each ward, as also, in some of the wards, was a watch-house keeper. Besides the regular watchmen, there were, in some of the wards, an extra number, who attended every night to supply the place of any regular watchman who might be ill or unable to attend; these men, if employed, received the regular pay; if not wanted, they were paid 3*d.*, and dismissed. Almost every ward had a street-keeper, who perambulated the ward from eight in the morning until the patrol came on in the afternoon, to remove nuisances from the streets, and prevent impediments by carts and coaches.

From and after 1830, when the necessity of improvement was forcibly felt, in competition with the New Metropolitan Police, a Nightly Watch Committee of the Common Council was appointed to superintend the ward police generally, and it appointed two inspectors of the watch. But even these few steps towards a better system had their opponents among the citizens. The inhabitants living in the several wards (and not, therefore, the highest classes of those possessing property there) had formed their habits to the old system; they liked to hear the hour called at night; to have around them a numerous watch (about 1,100 in all), employed and paid by themselves and neighbours; they liked to feel that they were themselves the masters of the men upon whom they must depend in cases of fire, and whom they could personally call to examination in case of depredation; they would not even have their watchmen sworn in as constables, because they would then have been under the authority of the aldermen, as magistrates; and they thought the old and married men quite as likely to stay on their beats during the night as the young.

The annexed statement describes the charge of the nightly watch on each ward, and on the whole city, in 1833. The proportion of this expenditure which was made without any legal sanction by the ward councilmen, may be gathered from an estimate attached to a report of the preceding year, made by a police committee of the Common Council, in which is entered, besides the pay of a proposed police, in supersedence of the watch, and the expenses of six station-houses, salaries to 32 beadles, of 80*l.* per annum each, 2,560*l.*; salaries to 31 ward clerks, of 20*l.* per annum each, 620*l.*; and expenses of 31 wards, at 40*l.* per annum each, 1,240*l.*; making a total of 4,420*l.*

A Statement of the Sums authorized to be raised for the Nightly Watch in the several Wards of the City of London in the Year 1833, *and the Amounts actually Raised and Expended in that Year.—(Report of the Revenue Committee of the Common Council, in* 1826, *Appendix No.* 26.)

Wards.	Sums authorized to be raised.			Amounts raised.			Expenditure.		
	£	s.	d.	£	s.	d.	£	s.	d.
Aldersgate Within	600	0	0	512	12	10	462	12	3½
,, Without	1,200	0	0	788	10	5	845	18	11
Aldgate	1,500	0	0	1,402	4	1	1,497	10	8½
Bassishaw	650	0	0	621	16	0	599	11	2
Billingsgate	1,200	0	0	1,172	7	7	1,175	5	8
Bishopsgate Within	1,100	0	0	1,042	14	0	978	11	0
,, Without	2,100	0	0	1,150	1	7	1,245	10	3
Bread Street	1,050	0	0	917	1	10	870	11	6
Bridge	900	0	0	821	17	8	888	2	4½
Broad Street	1,600	0	0	1,860	0	0	2,189	1	2
Candlewick	800	0	0	694	19	11	820	2	1
Castlebaynard	1,600	0	0	1,518	19	4	1,519	15	2
Cheap	1,600	0	0	1,178	18	2	1,330	12	10
Coleman Street	2,400	0	0	1,838	5	10	1,822	9	3
Cordwainer	1,000	0	0	867	3	6	731	16	7
Cornhill	1,000	0	0	902	3	1	859	3	11
Cripplegate Within	1,600	0	0	1,063	14	0	1,058	16	5
,, Without	1,534	0	0	1,116	16	10	1,371	2	5
Dowgate	900	0	0	787	13	8	787	13	8
Farringdon Within, including Monkwell and Blackfriars	2,200	0	0	1,989	15	3	1,986	5	3
Farringdon Without—									
,, St. Andrew's, Holborn	6,749	10	0	1,275	16	1	1,029	18	2
,, St. Bride				1,355	16	0	1,589	5	6
,, St. Dunstan's West				598	2	0	608	12	5
,, St. Sepulchre's				1,279	4	9	1,284	6	2
Langbourn	1,350	0	0	1,083	17	10	1,292	7	10
Lime Street	650	0	0	620	0	0	620	0	0
Portsoken	1,500	0	0	1,420	0	0	1,422	13	2
Queenhithe	850	0	0	558	7	4	628	2	3
Tower	2,200	0	0	1,320	0	0	1,392	14	0
Vintry	1,000	0	0	842	10	8	867	12	0
Walbrook	1,243	17	6	1,079	16	0	838	13	8
	42,077	7	6	33,681	6	3	34,619	17	9½

[Extracted from the several Ward Returns. Guildhall—B. W. Scott. J. F. Firth.]

In addition to the above expenditure there is paid out of the funds of the Corporation for the salaries and expenses of the two Inspectors of the nightly watch per annum 219*l.* 18*s.* There was, in 1833, also a patrol and extra constable for Southwark, receiving a salary of 65*l.*

The old constitutional officers of central police in the City, under the direction of the mayor and aldermen collectively, and whose offices are perhaps almost as ancient as the organization of the wards, are the upper marshal, the under marshal, and the marshalmen, or marshal's men, under whom the increasing necessities of police obliged the city magistrates, at a comparatively recent date, to organise an additional

force of 68 men, 32 of whom were employed during the day-time in the general duties of a street patrol; 12 were allotted to preserve order in Smithfield-market, and 12 were placed in the station-houses throughout the city, to receive charges. These 56 men constituted the whole of the day force; the remaining 12 were assigned as a night patrol, but without any organized co-operation with the ward watchmen. Offenders taken in the day-time were carried immediately before the lord mayor at the Mansion House, or the sitting alderman at Guildhall, or, if these magistrates were not sitting, were brought into the Compter, where also all night offenders were lodged until they could be taken before the magistrate the next morning. This force was felt to be insufficient, and was remodelled in April, 1832, as nearly as possible on the plan of the then recently instituted Metropolitan Police, under a superintendent, sergeants, and inspectors; their total number, too, was increased to 99, though their duties were confined to the day-time. Besides these men, there were 4 who are specially termed police-officers, and 6 station-men, besides 3 men stationed at the Mansion House and Guildhall. The under marshal was at the head of the whole force. A clerk and surgeon too were attached to it. This establishment was for the north side of the Thames alone. In Southwark, which, not having any ward organization, derived no advantage from the City's system of ward police, the Corporation provided no day police either, except a marshalman and a patrol. But this deficiency was supplied by the Metropolitan Police at its first institution, since which time nearly the whole of the City's criminal jurisdiction in Southwark has been abandoned.

The functions of the *upper marshal* are chiefly ceremonial in connexion with the mayoralty. Among his duties are, however, to receive the returns of all constables elected on St. Thomas's Day for the service of the ensuing year, and, when substitutes are named, to approve them, or report those that are objectionable to the lord mayor and aldermen on Plough Monday. The functions of the *under marshal*, appointed, like his superior, by the Common Council during pleasure, correspond with those of the upper marshal. He attends all public processions, and superintended the central day police of the City, until the establishment of the new force, inspecting the men morning and evening, at Guildhall, and seeing that the whole force performed its duty. The *marshalmen*, properly six in number, appointed by the Common Council, have been gradually reduced in number by ceasing to fill up vacancies, in accordance with the recent reorganization of the police. Their duties are, to attend the lord mayor daily at the Mansion House, to attend all sessions at the Old Bailey, Guildhall, and the Town Hall in the Borough, all Courts of Aldermen and Common Council, Courts of Conservancy, and all Common Halls; to be in attendance at Bartholomew Fair; to attend the lord mayor at wardmote elections, and all processions; to serve summonses and warrants, and to attend executions; to fill up and serve all precepts for ward constables, and to be at all times under the direction of the lord mayor, aldermen, and city marshals. They formerly perambulated the City, acting in the preservation of order in the streets.

A marshalman for Southwark, appointed by the Common Council, has no longer a second in the same office, as formerly. He was the

chief officer of the justice-room in Southwark while the city magistrates sat there, as also of the quarter sessions; holding, in fact, the character of a high constable under the bailiff of Southwark. He attends the high bailiff of Southwark, or his deputy, upon all public occasions, such as town-hall meetings convened by requisition to the high bailiff; and he regulates the constabulary force attending the same. He attends the lord mayor, sheriffs, recorder, and other principal city officers, at the several Courts of Conservancy for the county of Surrey, held at the town hall; as also all proclamations, and is with the high bailiff at all proclamations for the election of burgesses for the town and borough of Southwark; superintending the constabulary force employed on such occasions.

The following are statements of the expense of the day police, as it existed in 1833, and of the ancient establishment of central police as it still subsists, (notwithstanding the institution of a new force,) somewhat in the same character of a detective police, similar to that which formerly existed at Bow Street.

A Statement of the Expense or Rate of Pay of the Establishment of the Day Police, under the Direction of the Court of Aldermen, for the Year 1833, *except such part as is charged under the head of Magistracy of the City of London.—(From the Report of the Revenue Committee of the Common Council, in* 1836, *Appendix No.* 2.)

	Pay, per Week.			Boot Money, per Annum.		For Extra Duties and Allowance.			Total.		
	£	*s.*	*d.*	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
1 Superintendent	2	5	0	18	0		....		117	18	0
2 Inspectors, each	1	10	0	18	0	9	2	0	176	0	0
1 Inspector	1	10	0	18	0		....		78	18	0
1 Serjeant, including 2*s.* per week Smithfield duty	1	4	6	18	0	5	4	0	69	16	0
2 Ditto ditto each	1	2	6	18	0	9	2	0	137	0	0
7 Ditto ditto each	1	2	6	18	0		....		415	16	0
3 Men, including 2*s.* per week Smithfield duty	1	1	0	18	0	9	2	0	193	16	0
4 Ditto ditto each	1	1	0	18	0		....		222	0	0
1 Man	0	19	0	18	0	5	4	0	55	10	0
5 Men, each	0	19	0	18	0	9	2	0	297	0	0
72 Ditto	0	19	0	18	0		....		3,621	12	0
1 Clerk	1	11	6	18	0		....		82	16	0
4 Station-men, each	0	15	0	....			....		156	0	0
2 Ditto	0	15	0	....		5	4	0	88	8	0
Pensions from 5*s.* to 12*s.* per week each	3	15	0	....			....		195	0	0
Surgeon, per annum		....		....			....		50	0	0
Carried forward		....		....			....		5,957	10	0

	For Extra Duties and Allowance.			Total.		
	£	s.	d.	£	s.	d.
Brought forward	....			5,957	10	0
For sundry extra duties and incidental expenses	166	16	3			
For medicines	89	15	0			
	256	11	3			
Deduct amount stopped from men's pay during illness and applied in discharge of part of the above charge for medicine	67	18	0			
				188	13	3
CLOTHING.						
For Superintendent—for hat, 15*s.*; two pairs of trowsers, 3*l.* 16*s.*; uniform coat, 4*l.* 4*s.*; and average of great coat, one in two years, per annum	10	14	6			
For three Inspectors—hat, 15*s.*; two pairs of trowsers, 2*l.* 0*s.* 6*d.*; uniform coat, 3*l.* 3*s.*; and average of great coat, 1*l.* each, making per annum	20	15	6			
For ninety-five Policemen—hat-cover and stock 2*s.* 6½*d.*; cape, average of two years, 3*s.* 3*d.*; hat, 15*s.*; two pairs of trowsers, 1*l.* 4*s.* 6*d.*; uniform coat, 1*l.* 6*s.* 6*d.*; and great coat, average 13*s.* 10½*d.* each, per annum....	406	18	4			
				438	8	4
JAMES R. WHITHAIR, *Superintendent of Police.*				6,584	11	7

Emoluments of the Ancient Officers of Central Police in the City, still retained; derived from the Report of the Revenue Committee of the Common Council, in 1836.

Officers.	Emoluments.	From the City's Cash.			From other Sources.			Total.		
		£	s.	d.	£	s.	d.	£	s.	d.
UNDER MARSHAL (74).										
Thomas Theobalds....	Salary, per Order Common Council	450	0	0						
	Fees	..			5	11	0			
								455	11	0
	Average expense of clothing, &c., for Marshals	89	12	0	..			89	12	0
MARSHALMEN (161-3).										
D. B. Leadbetter.....	Salary, per Order Common Council	130	0	0						
	Allowance in lieu of Table	8	0	0						
	Fees on Summonses and Warrants	..			40	0	0			
	Casual Fees.....	..			12	0	0			
		138	0	0	52	0	0			
								190	0	0
William Brand	Salary, per Order Common Council	130	0	0						
	Allowance in lieu of Table	8	0	0						
	Fees on Summonses and Warrants	..			40	0	0			
		138	0	0	40	0	0			
								178	0	0
Henry Foster	Salary, per Order Common Council	130	0	0						
	Casual Fees.....	..			12	0	0			
	Fees on Summonses and Warrants	..			40	0	0			
		130	0	0	52	0	0			
								182	0	0
MARSHALMAN FOR SOUTHWARK (164).										
Richard Neave.....	Salary, per Order Common Council	84	0	0						
	Fees	..			28	11	0			
								112	11	0
	The Marshalmen are allowed an uniform suit—a hat and boots yearly, and great coat once in three years—average expense, per annum, 13*l.* 9*s.* 6*d.* each	53	18	0	..			53	18	0
	Total	1,083	10	0	178	2	0	1,261	12	0

Former Police of the Metropolis without the City.

Whatever the defects of the old police of the City, the total charge of which, in 1833, is thus seen to have been no less than 42,750*l.* 19*s.* 4½*d.*, besides the payments of the ward constables for substitutes, or in the form of actual service, which must have been several thousand pounds per annum*, there can be no doubt that it was always superior to the police of the surrounding suburban parishes, until the institution of the new force. And after Committees of the House of Commons in 1792 and 1793 had successively pointed out some of the most glaring defects in the latter, a third, in 1812, on the nightly watch of Westminster, reports, that its members "had not failed to observe that the city of London, from the nature of its magistracy, the description of its various public officers, the gradation and subordination of the various classes, the division and subdivision of its local limits, affords an example of that unity, and of that dependence of parts on each other, without which no well-constructed and efficient system of police can ever be expected. If such a system could be successfully imitated in Westminster and its liberties, and within the other adjacent parishes which have hitherto formed an unconnected mass of scattered and uncontrolled local authorities, considerable benefit might be expected to ensue."

After observing that the statute of the 14th Geo. III., c. 90, regulated the watch of certain parishes, the Committee proceeded to state that "other parishes or hamlets are governed by particular Acts of Parliament, authorizing the raising of rates for watching and lighting, and vesting in certain commissioners or vestries powers for carrying these purposes into effect; but in many cases the execution of the law is extremely defective and, in some cases, the power of raising money is inadequate; in others, the full amount is not levied; the mode of watching is generally bad, and the men employed, both in number and ability, wholly insufficient for the purpose. In other parishes there is no legislative provision for the purpose, and, upon the whole, no uniform system prevails; and neither the magistracy or the Government have, at present, any connexion whatever with the state of the watch, and no control or superintendence over it†."

The statute of the 14th Geo. III., c. 90, above alluded to, regulated the nightly watch throughout the parishes of the city and liberties of Westminster and in other parishes, describing, with great detail, the duties, numbers, and wages of the persons to be employed as watchmen in each parish by the authorities of each therein named. But in the metropolitan parishes without the city and its liberties, the watch was chiefly under local Acts, varying in their provisions according to the exigencies of the several districts. The same kind of establishment appears, however, to have prevailed in all the parishes out of the city. In each there were generally a beadle, constables, and head-boroughs, street-keepers, and watchmen, as in the several wards of the city. The general duty of the beadle was to set the watch, to attend the watch-house on certain nights in the week, to remove nuisances, to take up vagrants, to attend the parish officers, and to perform the parish

* See Evidence of Alderman Venables before the Commons' Police Committee of 1837.

† Report on the Police of the Metropolis, 1828, pp. 23, 24.

duties. In some parishes there was only one beadle, in others several; and their salaries were likewise uncertain. Their appointment rested sometimes with the inhabitants in vestry, and sometimes with the trustees under local Acts, especially the 14th Geo. III., c. 90. The constables and head-boroughs were appointed by the inhabitants in vestries or at court leets; they received no salary, and their duties were to assist the beadle in all parish matters, and to take their turn in attending the watch-house during the night. The business of the street-keeper, similarly appointed, was to patrol the streets during the day, for the purpose of removing nuisances. The duties of the watchmen, of course, did not differ from those of the same class in the city or elsewhere.

"A great proportion of the petty constables in the metropolis," states the Report of the Commons' Committee in 1818, "serve by deputy. Their deputies, in many instances, are characters of the worst and lowest descriptions; the fine they receive from the person who appoints them varies from 10*s.* to 5*l.*; the consequence is, having some expense and no salary, they live by extortion, by countenancing all species of vice, by an understanding with the keepers of brothels and disorderly alehouses, by attending in courts of justice and giving there false evidence to ensure conviction, when their expenses are paid, and by all the various means by which artful and designing men can entrap the weak and prey upon the unwary*."

Such was the state, in the outlying parts of the metropolis, of the force answering to the ward police of the city and liberties. Of central control there was none, except by a general statute of 1821, requiring that the watchmen should not be more than 40 years of age, and giving a power to the police magistrates to displace or suspend them for misconduct. There was, however, a rude and inefficient constabulary for the city of Westminster, provided by a statute of the 27th Elizabeth, confirmed by the 29th Geo. II., c. 25. A court leet, summoned annually by the high bailiff, an officer appointed by the dean, under a precept from the dean or high steward, returned the names of 160 tradespeople of Westminster to the Court of Burgesses, who, out of this number chose 80 to act as constables; all persons carrying on trade being liable to have this office imposed upon them except victuallers. It was customary, however, for the greater number to serve by deputies approved by the Court of Burgesses, and to whom the fee was 5*l.* or 6*l.* These constables were liable to be called out on all public occasions; they attended constantly at the House of Commons during the sitting of Parliament; they attended also during elections for the city of Westminster. After the establishment of the police offices they were no longer employed in the detection of offenders against the law. They received no salary from the dean and chapter of Westminster; but when employed on any public occasion, such as attending the King on the opening of Parliament, or attending at a drawing-room or levee, they received from the Board of Green Cloth a gratuity, sometimes at the rate of 5*s.*, and sometimes at the rate of 2*s.* 6*d.* a-day. They also received an annual gratuity of 6*l.* 6*s.* from the Speaker of the House of Commons.

Wholly unconnected with the local police of the metropolis, there was likewise attached to the several police offices, contemporaneously

* Report on the Police of the Metropolis, 1828, p. 26.

with their general institution in 1792, a small number of officers forming a once celebrated detective police, recently suppressed, but which it has been found necessary again to revive, in a modified form, under the present metropolitan commissioners of police; the time having departed when such officers could be the familiar companions of thieves at flash houses, whither, when it was in season, "they would go for their prey, as gentlemen to their preserves for game*." Connected with the office at Bow Street was also the horse patrol, mounted and dismounted, and the foot patrol; the former instituted in 1805, in consequence of the frequency of highway robberies, and employed in perambulating all the great roads within twenty miles of the metropolis; the dismounted patrol taking charge of the environs; and the foot patrol, subsequent to 1822, when it was remodelled by Sir Robert, then Mr., Peel, perambulating the town itself, in a force of about 100, in sixteen different divisions.

"The Corporation maintained no police force upon the Thames; the establishment known as the Thames Police having been constituted under the authority of several Acts of Parliament: 54 Geo. III., c. 187; 1 Geo. IV., c. 66; 1 & 2 Geo. IV., c. 118; 3 Geo. IV., c. 55; 10 Geo. IV., c. 45; 3 & 4 Will. IV., c. 19. By the first of these statutes a police office and sitting magistrate were provided at Wapping, with power to appoint constables and police surveyors to act upon the river and on the quays and passages adjoining; the whole expense beyond the amount of fees and penalties levied under the Act was charged, to the amount not exceeding 8,600*l.*, on the Consolidated Fund. The statute 1 Geo. IV., c. 66, was merely for continuing the former Act, but, by 1 & 2 Geo. IV., c. 118, the provisions of the Thames Police Act were incorporated with those of other police offices in or near the metropolis, and the constables were to be appointed by any two of the justices to act for all the offices. This last-named Act, which was passed for only one year, was amended and continued for seven years in the next session by 3 Geo. IV., c. 55. It was again by continued by 10 Geo. IV., c. 45, until the end of the next session of Parliament following, 5th July, 1832; and similar provisions were enacted for three years by 3 & 4 Will. IV., c. 19.

"No powers of any kind were given to the Corporation by these Acts; but they contain a saving clause of the city's rights and privileges with respect to the conservancy of the river, and are declared not to prevent the lord mayor, aldermen, and recorder from acting as justices of peace on the river, or taking cognizance of offences committed on it.

"The Thames police establishment consisted of 60 watermen constables and 21 surveyors; each of the latter having a boat and three of the former to man it. He boarded vessels newly arrived, overhauled the berths and bed-places of the people, to ascertain whether they had taken any part of the cargo, or had contraband goods, or whether there were king's stores improperly on board, or an undue quantity of gunpowder, or any part of a cargo kept back or concealed. He likewise assisted the customs and the excise when on duty on shore, and, on some occasions, has seized illegal stills†."

* Police Report of 1817, p. 17.
† Report of 1834, pp. 13, 14.

Institution of the New Police, without the City, by Sir Robert Peel.

These latter establishments, however, were merely successive additions which had been made to the offices of the stipendiary magistrates of police, which were the first hold obtained by the central government of the country upon the local government of the metropolis. With all their defects they were productive of so much good, that the transference of a complete power over them to the Secretary of State could be a subject of no distrust. They naturally became the nucleus of the first endeavours to form a general police. And the benefits of a mere Bow Street patrol had at length become sufficiently well known to justify the Commons' Committee of 1828 in going far beyond the previous Committees of 1772, 1793, 1812, 1816-18, and 1822, in the way of innovation, and recommending for the whole of the metropolis without the city and liberties a centralized plan of police under the Home Office, in complete supersedence of the old parochial system.

"In some parishes," states its Report, "through the meritorious exertions of individual residents, the system of watching is well conducted. Due attention is paid to the selection of persons properly qualified in point of age and strength to act as watchmen; and a proper control appears to be exercised over the performance of their duties. If," however, "each parish had full power by law to establish an efficient watch, and if each parish had exercised that power with the greatest judgment and discretion, still there would be no unity of system and no security for mutual concert and co-operation. But at present, while in some few parishes the watch is well regulated, in others it is very imperfectly constituted; and in many there appears to be no regular establishment of watch whatever. The exertions of the parishes which are well regulated are often defeated, in a material degree, by the indifference and neglect of their neighbours. The regulations as to the wages of watchmen, as to the hours of their attendance, as to the personal qualifications requisite, depend upon no fixed rule, but vary at the discretion of the local authorities. In some parishes a preference is given to persons who, if not employed as watchmen, would be chargeable on the poor rates; in many, from considerations of charity, and the natural unwillingness to dismiss an old servant on account of infirmity, watchmen are continued who are manifestly disabled by age or infirmity for the proper discharge of their duties."

Indeed, "the system, as a whole, is defective; and, in the opinion of your Committee, the time is now come when determined efforts ought to be made to effect a decisive change in it. Your Committee are well aware that in effecting this change there may be serious difficulties to encounter: the difficulties of changing ancient usages, of simplifying a complicated system, of arranging troublesome detail, of transferring to one department a sort of patronage and power which is now exercised by many. But these difficulties must be encountered, if it be intended to institute an efficient system of police in this great metropolis, for the adequate protection of property, and for the prevention and detection of crime*."

* Report of Commons' Committee of 1828 on the Police of the Metropolis, pp. 21, 22.

"Your Committee are not prepared," concludes the same Report, "to recommend any interference with the powers at present exercised by the municipal authorities of the city of London, over the police and watch establishments of the City; they have reason to believe that material improvements have been recently made, in the general management of their establishments; and they are confident that no petty jealousies, as to the limits of exclusive jurisdiction, will prevent a cordial concert and co-operation between the authorities of the city of London, and those which may be charged with the maintenance of the peace in an adjoining district. *But they beg to suggest for consideration, whether it might not be beneficial to the public, that the city of London should either relinquish their concurrent jurisdiction in the borough of Southwark, or assume the direction of the whole of the police**."

Such were the *municipal wants* of the metropolis without the City, which justified Parliament in placing it under the direct superintendence of the executive officers of the State. Had the jurisdiction of the civic magistrates been extended to the suburbs, as they arose, the police offices, under the Government, would never have been called into existence. Had the parishes and places without the City, possessed any such combined system of paid watchmen, as that given to the wards a century ago by the 10th Geo. II., instead of being left in a state far worse than that of the wards at any earlier date, the present Metropolitan Police, under the Home Office, would never have been established. Nor, it must be confessed, is it probable that any instrument of police at all approaching it in efficiency, would have arisen out of an extension of the City's system to the rest of the metropolis, after reckoning for all the improvements which its augmented importance would have demanded.

"It is obvious, that the Corporation of London was in no condition to take up the challenge to assume the management of the whole police, which was thus thrown down by the Committee. To be left unmolested was its best bargain. And opposition to so great an executive improvement, was hopeless on the part of the petty jurisdictions into which the metropolis was divided and subdivided, each independent of every other, each having sufficiently distinct interests to engender perpetual jealousies and animosities, and being sufficiently free from any general control to prevent any intercommunity of information, or any unity of action†."

The plan of the Committee of 1828 was accordingly embodied by Sir Robert Peel in the Metropolitan Police Act of the 10th Geo. IV., c. 44, which superseded the Bow Street foot patrol, and the whole of the parochial police and watch outside the City, by one force for both day and night duty, in the sole appointment, order, and superintendence of two Commissioners, (Colonel Rowan, and Richard Mayne, Esq.), and acting under the responsibility of the Secretary of State for the Home Department. On the recommendation of the Commons' Committee of 1834, the transfer of the horse patrol to the Commissioners was effected in October, 1836, under the 6th and 7th Wm., c. 50; and on the recommendation of the last Commons' Committee on the police of the metropolis, the river police was placed under the Commissioners, by the 2nd and 3rd

* Report of Commons' Committee of 1828 on the Police of the Metropolis, p. 32.
† Report of Commons' Committee on Police of the Metropolis, 1834, p. 5.

Vict., c. 47, (1839), which also abolished the leet constables of Westminster, and superseded the police constables under the separate control of the stipendiary magistrates at the several police offices, by constables placed in those offices by the Commissioners of Police, to execute such summonses and warrants as may be directed to them. The only police establishment in the metropolis exempt from the authority of the Commissioners is now, therefore, the police of the city of London.

Institution of the New Police within the City, under a Separate and Independent Management.

The Common Council, in the meantime, was not unmindful of the necessity of making thorough changes and great improvements in the City police, to get it into a state sufficient even to protect the centre of the metropolis from the influx of bad characters, whom the vigilance of the new police was driving in every direction in search of less endangered haunts. So early as 1830, a committee of that body, on the nightly watch, proposed a plan for entirely remodelling the City Police, very similar to that which has since been adopted. For a time, this plan was dropped, being very distasteful to the wards; but while the aldermen were reorganizing the day police already described, the Common Council, in 1832, pursued through the House of Commons a bill drawn in accordance with the reports of some subsequent Committees, carrying out in its main features the plan of the Committee of 1830, rendered still more like the measure ultimately passed, except that it placed the whole control and patronage in a Committee of the Common Council. But when, on the third reading, words were introduced which would have placed the whole under the exclusive management of the aldermen, as the municipal magistrates, it was abandoned by order of the Common Council.

While the Commissioners of the Metropolitan Police estimated that 24,650*l.* would be an ample allowance for the discharge of all the duties of police in the City*, if it were placed under their charge, nearly double that sum was expended upon a system which afforded them no co-operation, though in the very heart of the town, nor even protected its own people under their augmented exposure; consequently the Second Report of the Corporation Commissioners, in 1837, reiterates in other terms the challenge given to the City in the Commons' Report of 1828. "There may be room for doubt," says this document, "which is the proper authority to which the superintendence of the police of the metropolis should be entrusted; we apprehend there can be none, that the authority, whatever it be, should be supreme and undivided throughout the whole district†." It is not surprising, therefore, that the first recommendation of the Committee of 1838, for the improvement of the Police Act of the metropolis, was, "that for the better prevention of crime, the detection of offenders, and the preservation of the peace, and the more effectually to promote these objects in conformity with the principle of the 10th Geo. IV., c. 44, (Sir Robert Peel's Act,) it is expedient to consolidate the several constabulary forces of the metropolis, including those of the

* Report on Police of the Metropolis in 1834, p. 10.
† Report, p. 15.

city of London and the river Thames, under one authority, responsible to the Secretary of State for the Home Department*."

Accordingly, the Bill for further improving the police in and near the metropolis, introduced by the Government in 1839, (and ultimately passed as the 2nd and 3rd Vict., c. 47,) contained clauses, repealing all those portions of the statute of Geo. II., regulating the ward police, which did not relate to the levying of rates, and transferring to the Metropolitan Commissioners of Police the whole charge of the civic police; the wards being treated just as the parishes without the City, and offered the same aid from the consolidated fund in diminution of their rates, which those parishes enjoyed. This proposition aroused into action every means of influence which the Corporation at large, and every class of it possessed, to avert what they considered a fatal blow at its very existence; the Common Council protesting that "if the proposed object be to adopt one uniform system of police, and such object should appear desirable, this Court is of opinion that means may be adopted fully to effect that object, without destroying or impairing the valuable franchises of the citizens of London, which, with the exception of the seizure of the charters of this City, in the reign of Charles II., by the act of the Legislature, afterwards declared to be illegal and arbitrary, have been uninterruptedly enjoyed by them, from the earliest periods of their history to the present time, and which the several members of this Court are bound by their oaths to maintain†."

It is impossible here to enter into the details of this struggle; but it ended in an abandonment of the objectionable clauses by the Government, and in their practical adoption and extension in a separate statute of the bill formerly proposed by the Common Council, and which had been re-introduced in the preceding year; with the proviso, however, that the power of Commissioners of Police in the City should not be exercised by a committee of the Common Council, but by a single "Commissioner of the City Police," appointed by the Common Council. This became the local Act of the 2nd and 3rd Vict., c. 94, (17th August, 1839,) which now regulates the police in the city of London; repealing that of the 10th Geo. II., c. 22; exempting all watch-rate payers from liability to watch and ward under the 13th Edward I., commonly called the Statute of Winchester; and suspending the ancient custom of electing ward constables, so long as this new statute remains in force.

Present Police Regulations of the Metropolis.

The statute of the 2nd and 3rd Vict., c. 94, (local) which is the Act for the regulation of the City Police, contains the same provisions for the order of the force, and the same regulations of police for the public safety and benefit, which were embodied at the same time in the 2nd and 3rd Vict., c. 47, applying to the Metropolitan Police districts without the city.

The Commissioners of Police are empowered to regulate the route and conduct of persons driving stage-carriages, cattle, &c., during the hours of divine service; and likewise to make such dispositions as will

* Report, p. 12.

† Common Council Minutes, Feb. 27th, 1838, p. 68.

prevent obstructions in the streets during public processions. Public-houses are to remain shut on Sundays, Christmas-day, and Good-Friday, until one in the afternoon, except for refreshment of travellers. Publicans are prohibited from supplying liquors to persons under sixteen years of age. Coffee-houses, cookshops, &c. are brought under regulation. Power is given to enter unlicensed theatres. The keepers of places for bear-baiting, cock-fighting, &c. are subjected to penalties. Any justice or commissioner is empowered to authorize a superintendent of police to enter gaming houses; and proof of gaming for money, &c. is not to be necessary in support of informations for gaming. Pawnbrokers receiving pledges from persons under the age of sixteen are subjected to penalties; as also are persons discharging fire-arms of large calibre near to dwelling-houses. Drunkards guilty of indecent behabiour may be imprisoned, and persons riding behind carriages without permission may be apprehended and fined 5*s.*; or if children, kept until fetched by their parents or guardians. Dog-carts are prohibited; and street musicians to depart when requested. All the following street offences, indeed, severally incur a penalty of 40*s.*; and any constable belonging to the force, or any person injured by their committal, may, without warrant, take into custody any person who shall commit them within his view:—

1. Every person who shall, to the annoyance of the inhabitants or passengers, expose for show or sale (except in a market lawfully appointed for that purpose) or feed or fodder any horse or other animal, or show any caravan containing any animal, or any other show or public entertainment, or shoe, bleed, or farry any horse or animal (except in cases of accident,) or clean, dress, exercise, train, or break any horse or animal, or clean, make, or repair any part of any cart or carriage, except in cases of accident where repair on the spot is necessary:

2. Every person who shall turn loose any horse or cattle, or suffer to be at large any unmuzzled ferocious dog, or set on or urge any dog or other animal to attack, worry, or put in fear any person, horse, or other animal:

3. Every person who by negligence or ill-usage in driving cattle shall cause any mischief to be done by such cattle, or who shall in anywise misbehave himself in the driving, care, or management of such cattle, and also every person, not being hired or employed to drive such cattle, who shall wantonly and unlawfully pelt, drive, or hunt any such cattle:

4. Every person having the care of any cart or carriage who shall ride on any part thereof, or on the shafts, or on any horse or other animal drawing the same, without having and holding the reins, or who shall be at such a distance from such cart or carriage as not to have the complete control over every horse or other animal drawing the same:

5. Every person who shall ride or drive furiously, or so as to endanger the life or limb of any person, or to the common danger of the passengers in any thoroughfare:

6. Every person who shall cause any cart, public carriage, sledge, truck, or barrow, with or without horses, to stand longer than may be necessary for loading or unloading, or for taking up or setting down passengers, (except Hackney carriages standing for hire in any place not forbidden by law,) or who by means of any cart, carriage, sledge, truck, or barrow, or any horse or other animal, shall wilfully interrupt any public crossing, or wilfully cause any obstruction in any thoroughfare:

7. Every person who shall lead or ride any horse or other animal, or draw or drive any cart or carriage, or fasten any horse or other animal, so that it can stand across or upon any footway:

8. Every person who shall draw or drive any sledge, truck, or barrow upon any footway or curbstone, or roll or carry any cask, tub, hoop, or wheel, or any ladder, plank, pole, show-board, or placard, upon any footway, except for the purpose of loading or unloading any cart or carriage, or of crossing the footway:

9. Every person who, after being made acquainted with the regulations or directions which the Commissioner of Police, with such consent as aforesaid, shall have made for regulating the route of horses, carts, carriages, and persons during the time of Divine Servive, and for preventing obstructions during public processions and on other occasions herein-before specified, shall wilfully disregard or not conform himself thereunto :

10. Every person who, without the consent of the owner or occupier, shall affix any posting-bill or other paper against or upon any building, wall, fence, or pale, or write upon, soil, deface, or mark any such building, wall, fence, or pale, with chalk or paint, or in any other way whatsoever, or wilfully break, destroy, or damage any part of any such building, wall, fence, or pale, or any fixture or appendage thereunto, or any tree, shrub, or seat in any public walk, park, or garden :

11. Every common prostitute or night-walker loitering or being in any thoroughfare or public place for the purpose of prostitution or solicitation, to the annoyance of the inhabitants or passengers :

12. Every person who shall sell or distribute, or offer for sale or distribution, or exhibit to public view, any profane, indecent, or obscene book, paper, print, drawing, painting, or representation, or sing any profane, indecent, or obscene song or ballad, or write or draw any indecent or obscene word, figure, or representation, or use any profane, indecent, or obscene language, to the annoyance of the inhabitants or passengers :

13. Every person who shall use any threatening, abusive, or insulting words or behaviour with intent to provoke a breach of the peace, or whereby a breach of the peace may be occasioned :

14. Every person (except the guards and postmen belonging to Her Majesty's Post Office in the performance of their duty) who shall blow any horn or use any other noisy instrument for the purpose of calling persons together, or of announcing any show or entertainment, or for the purpose of hawking, selling, distributing, or collecting any article whatsoever, or of obtaining money or alms :

15. Every person who shall wantonly discharge any fire-arm, or throw or discharge any stone or other missile, to the damage or danger of any person, or make any bonfire, or throw or set fire to any fire-work :

16. Every person who shall wilfully and wantonly disturb any inhabitant by pulling or ringing any door bell or knocking at any door without lawful excuse, or who shall wilfully and unlawfully extinguish the light of any lamp :

17. Every person who shall fly any kite or play at any game to the annoyance of the inhabitants or passengers, or who shall make or use any slide upon ice or snow in any street or other thoroughfare, to the common danger of the passengers :

The police may kill dogs suspected to be rabid; and the owners of such are subjected to a penalty of 5*l.* for allowing them to be at large. Persons charged with any of the preceding offences may be required by the magistrates to make compensation to individuals injured, to any amount not exceeding 10*l.*, besides paying the penalties assigned. The constables may apprehend offenders whose name and residence is not known; or persons throwing mud into the river within the limits of the City or liberties, or persons charged with obviously aggravated assaults, though not committed within his view. They may also stop all conveyances employed in the removal of furniture to evade rent, or removing other property under suspicious circumstances; and these may be detained and sold, if not duly reclaimed. Persons apprehended without warrant, however, are to be taken directly to the nearest station-house, where the constable in charge may take their recognizance, and set them at liberty if the offence be merely subject to summary conviction before a magistrate, or having carelessly done any hurt or damage. The constable at the station-house must also bind persons making serious charges to appear in support of them before the magistrates; if they will not enter into recognizances, may set

the prisoner at liberty; and if the accusers do not, after entering into them, make their appearance, they are forfeited. For petty offences, not herein enumerated, the magistrates are allowed to inflict penalties at discretion to an amount not exceeding 5*l.*, or to imprison for any time not exceeding one calendar month, in the house of correction.

Metropolitan Police Establishment.

The Metropolitan Police district, under the 10th Geo. IV., c. 44, (1829), comprised for ten years only the parishes and places first hereinafter enumerated; but by the 2nd & 3rd Vict., c. 47 (1839), the power originally given to the Crown, of extending these limits, was strengthened; and an Order in Council issued in January, 1840, brought within it the whole of the Central Criminal Court district, and such other parishes and places in the counties of Middlesex, Surrey, Hertford, Essex, and Kent as were within fifteen miles of Charing Cross in a straight line; the Commissioners having the authority of magistrates, and the policemen of constables throughout these counties. Still the old limits are preserved, and the districts outside are treated as supplemental additions to the several original divisions to which they adjoin. The number and pay of the constables is determined by the Secretary of State, who also appoints a "Receiver of the Metropolitan Police district," who is as it were, a corporation sole for holding certain property of the force. The whole are maintained out of funds levied by warrant of the Commissioners, addressed to the overseers of the poor of each place, and satisfied within forty days; the total sum to be demanded in the course of any one year not exceeding eight pence in the pound, according to the last valuation; and the whole being collected as a poor rate. By the 3rd and 4th Will. IV., c. 89, passed to relieve the rates from part of the expenses of the new police, it is provided that a sum not exceeding 60,000*l.* shall be passed from the consolidated fund to the receiver, to meet all charges upon any parish or place exceeding 3*d.* in the pound for six months; or, in other terms, to the reduction by one fourth of the maximum amount of rates granted by the original act; a provision which is extended by the 2nd and 3rd Vict., c. 47, to the "extended district." The latter statute also provides for the expenses of the Thames police and the horse patrol, by a further annual grant to the Receiver of 20,000*l.*, and institutes a "police superannuation fund" in his hands.

In each division of the *Metropolitan* Police there is 1 superintendent, from 2 to 6 inspectors, from 14 to 30 serjeants, and a number of men varying according to the exigencies of each locality. All under the degree of inspector receive, besides their pay, their clothing and 40lbs. weight of coals weekly to each married man, and to each single man also during the winter months, though only half this amount to the latter during the remainder of the year.

The following is a statement of the existing force :—

A Statement of the Total Number of Persons belonging to the Metropolitan Police Force, on the 1st January, 1849, in which the Number of Persons in each Class or Rank of such Force, and the Salaries, Pay, and Allowances enjoyed by each Class, are distinguished, as required by the Act 2 and 3 Vict., c. 47, s. 9.

Class or Rank.	Number of Persons.	Salaries or Pay, per Annum. £	s.	d.
1 Inspecting Superintendent	1	600	0	0
18 Superintendents	1	325	0	0
	1	300	0	0
	15	250	0	0
	1	200	0	0
125 Inspectors	2	200	0	0
	4	168	6	0
	2	150	0	0
	1	127	8	0
	90	118	6	0
	1	90	0	0
	22	81	18	0
On Sick Leave.....	2	59	3	0
	1	40	19	0
588 Serjeants	1	118	6	0
	6	109	4	0
	1	81	18	0
	3	72	16	0
	577	63	14	0
4,781 Constables	2	81	18	0
	3	78	0	0
	15	72	17	0
	1	72	16	0
	3	70	1	10
	2	67	12	0
	1	64	17	10
	8	63	14	0
	19	59	16	0
	1	52	0	0
1st Class	1,217	54	12	0
2nd ,, ...	2,346	49	8	0
3rd ,, ...	1,163	44	4	0
Total Number.....	5,513			

Note.—There is allowed to each of the Serjeants and Constables—Clothing, and 40 lbs. of coals weekly, to each married man, all the year; 40 lbs. weekly to each single man, during six months, and 20 lbs. weekly during the remainder of the year.

The increase of population within the police limits in the 10 years from 1839 to 1849 has been estimated at no less than 325,904; the number of houses built within that period having been no fewer than 64,058; forming no less than 1,652 entirely new streets, of an aggregate length of 200 miles; to which the addition is still at such rate that no fewer that 3,485 houses were in course of erection in July, 1849. Partly justified by this increase, but immediately urged on by the disturbances which were attempted in the metropolis in April, 1848, an augmentation was made in the force in the summer of that year,

Return of the Number of Divisions into which the Metropolitan Police District is now divided for the purposes of Police, and the Letter and Name of each Division; the Total Population thereof, as nearly as can be stated; the number of Police employed in each Division; distinguishing the number of every Class or Rank, and specifying the number of robberies committed, the value of property stolen, and the value recovered.

[From the Return to the House of Commons, Nos. 24 and 133, Sess. 1849, and the Common Council Minutes, 1st November, 1842, p. 246.]

Letter and Name of Division.	Number and Rank of Police in each Division.								Population of each Division, as nearly as can be stated.	Number of Robberies Committed.	Value of the Property Stolen.	Value of the Property Recovered.
	Inspecting Superintendent.	Superintendents.	Inspectors.	Serjeants.	Constables.			Total.				
					1st Class.	2nd Class.	3rd Class.					
A. or Whitehall	1	1	14	36	70	96	32	250	16,076	130	£ 322	£ 139
B. or Westminster	....	1	5	32	70	144	74	326	96,994	538	2,604	457
C. or St. James's	....	1	5	28	56	116	59	265	145,298	515	6,744	969
D. or Mary-le-bone	....	1	6	36	79	167	84	373	179,237	1,024	3,264	1,085
E. or Holborn	....	1	4	19	36	72	39	171	93,070	1,095	3,731	634
F. or Covent Garden	....	1	4	17	35	70	36	163	78,657	536	3,087	426
G. or Finsbury	....	1	5	32	67	139	72	316	142,295	1,129	3,115	706
H. or Whitechapel	....	1	4	22	61	93	42	223	155,678	521	2,007	365
K. or Stepney	....	1	7	48	100	196	100	452	227,842	925	1,613	440
L. or Lambeth	....	1	4	23	42	88	45	203	133,108	1,051	2,680	140
M. or Southwark	....	1	5	36	74	151	79	346	157,824	1,035	2,958	632
N. or Islington	....	1	5	55	106	221	114	502	236,088	1,076	1,913	460
P. or Camberwell	....	1	5	35	82	170	89	382	136,089	1,088	3,772	941
R. or Greenwich	....	1	13	48	122	128	65	377	131,161	544	1,089	316
S. or Hampstead	....	1	5	46	90	184	94	420	189,744	1,038	2,374	323
T. or Kensington	....	1	5	33	63	118	62	282	116,533	240	1,340	177
V. or Wandsworth	....	1	5	42	82	157	77	364	101,266	537	1,521	218
Thames Division	....	1	24	....	37	36	....	98	....	120	532	72
Total Metropolitan Police	1	18	125	588	1,272*	2,346	1,163	5,513	2,336,960	13,142	44,666	8,500
City of London: no return made to Parliament; but if as in 1833	....	1	13	50	479			542	125,008	1,757	4,747	1,165
Total City & Metropolitan Police	1	19	138	638	....	....	....	6,055	2,461,968	14,899	49,413	9,665

* Inclusive of 55 men not assigned to any particular Class.

increasing its cost even in that year only by the sum of 38,163*l.* 13*s.*, of which all but 1,505*l.* was forthwith levied.

Return of the Expenditure of the Increased Rate in the Year 1848 *above that of the Year* 1847, *for the Maintenance of the Metropolitan Police Force*.*

Number and Rank of Police augmented, and other Items of Increased Expenditure.				Expenditure of Increased Rates.		
		£	s.	d.	£	s.	d.
627	6 Inspectors	709	16	0			
	100 Serjeants	6,370	0	0			
	521 Constables	25,846	12	0			
	Total Pay				32,926	8	0
	Clothing for 621 Serjeants and Constables				3,726	0	0
	Allowance of coals for ditto				776	5	0
	Keep, &c., of 21 horses				735	0	0
	Totals				38,163	13	0

Return showing the Increase of the Rate in the Year 1848 *above that of the Year* 1847, *for the Metropolitan Police Force in the County of Middlesex, and in each of the other Counties parts of which are within the Metropolitan Police District; and showing what Proportion the Valuation upon which the Police Rate is now raised bears to the Actual Value of the Property in each of the Counties within the Metropolitan Police District, as nearly as it can be ascertained†.*

County.	Amount of Rate levied in the Years 1847.			1848.			Increase of Rate for the Year 1848.			Valuation of Property for Police Rate.	Valuation Actual Value of Property*.	Per Centage of Actual Value of Property above Valuation for Police Rate.
	£	s.	d.	£	s.	d.	£	s.	d.	£	£	Per Cent.
Middlesex	159,328	17	0	193,981	15	0	34,652	18	0	7,759,270	8,301,333	7
Surrey	44,099	2	0	46,015	11	6	1,916	9	6	1,924,241	2,156,960	$12\frac{1}{10}$
Kent (part of)	10,036	15	0	10,126	0	6	89	5	6	408,612	590,680	$44\frac{1}{2}$
Essex (part of)	4,065	5	0	4,065	5	0	...		...	250,846	268,411	7
Herts (part of)	2,071	19	6	2,071	19	6	...		...	82,879	101,250	$22\frac{1}{6}$
Total	219,601	18	6	256,260	11	6	36,658	13	0	10,425,848	11,418,634	

* Taken from the Returns for the Income Tax, except the Railways, which are valued upon the Poor-Rate Assessment.

Abstract of the Warrants for the Police Rates, issued in the Year 1848.

Dates of the Commissioners' Half-Yearly Warrants.	Rentals upon which Computed.	Totals of the Police Rates, at 8*d.* in the Pound.			Charged upon the Parishes, at 6*d.* in the Pound.			Charged upon the Consolidated Fund.			Received from the Parishes.			Received from the Consolidated Fund.		
Original District:	£	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1st January and 1st July ...	8,800,132	293,337	14	8	220,003	6	0	(At per annum.) 60,000	0	0	220,003	6	0	60,000	0	0
Extended District: 1st January and 1st July ...	1,450,291	48,343	0	8	36,257	5	6	(At 2*d.* in the Pound.) 12,085	15	2	36,257	5	6	12,085	15	2
					256,260	11	6	72,085	15	2	256,260	11	6	72,085	15	2
Totals ...	10,250,423	341,680	15	4	328,346	6	8				328,346	6	8			

* Commons' Papers, Sess. 1849, No. 614. † Idem.

City Police Establishment.

The Commissioner is to receive a salary of not less than 800*l.* per annum, and be named a justice of peace for police purposes; but is not to be a member of Parliament, or engaged in any trade or profession. The first appointment to this office was of Daniel Whittle Harvey, Esq., who now holds it. The number of the police is determined by the Common Council, but their appointment rests with the Commissioner. A "City Police Superannuation Fund" is reserved in the charge of the Common Council, similar to that of the Metropolitan Police; and the Common Council have also power to make allowances to the men for extraordinary expenses or exertions, on the recommendation of the Commissioner. The ordering of the force is entirely vested in the Commissioner, subject to the approbation of the mayor and aldermen, or any three of them, and also of the Secretary of State for the Home Department, to whom the Commissioner must make such returns of the state of crime, and conduct of the police within the City, as he shall require. Warrants of the City justices are made of force for execution in any of the home counties of Middlesex, Surrey, Hertford, Essex, and Kent, in like manner as if the same had been endorsed by a justice of those counties respectively, to whose warrants the like power is given in the city of London. In cases of emergency, too, upon requisition of the lord mayor, the Metropolitan Police may act within the city of London, under the authority of the Secretary of State; and the City Police, if authorized by the lord mayor, at the request of the Secretary of State, may, on like occasions, act under their own officers in the Metropolitan Police district. The Court of Common Council are empowered to appoint such clerks and officers for the purposes of this act, in such manner and with such salaries and allowances as they may think fit; and likewise to appoint a committee or committees "to manage and transact all or any of the matters or purposes which they, the said mayor, aldermen, and commons, in Common Council assembled, are hereby required to do, execute, or perform." The corporation are also required to contribute out their revenues "one equal fourth part of the expenses of the said police force," in place of the fourth contributed out of the consolidated fund of the rates on parishes without the City. The other three-fourths of the expenses are raised by a pound rate, assessed in the several wards, by order of the Court of Common Council, and within fourteen days after the date of their order, by the alderman, or his deputy, and the major part of the common councilmen of each ward.

The rules laid down by the statute for the levy and the recovery of these rates are very minute, but the Common Council or its committee may remit the payment of them in cases of hardship or poverty. The rates are collected by the ward beadles, under the order and inspection of the deputy and common councilmen of each ward, and paid by them into the hands of the Chamberlain of the City, to whom they give securities for the faithful discharge of their office, in which they are required to retain in hand not more than 20*l.* under a penalty of 5*l.* The accounts are required to be kept by the Chamberlain, and annually laid before Parliament and the Common Council.

Under the system of police thus instituted, the City is divided into six police districts, in each of which there is a station-house. Each district is divided into sections, and each section into day and night

beats, regularly perambulated*. The whole system, however, being assimilated with that of the Metropolitan Police, to enter into its detail would be to enter into the whole art of police government on the vast scale which a centralized system permits, with its almost military methods and discipline, a subject entirely beyond the present purpose and limits.

The force which the Common Council first required the Commissioner to appoint was 500 men, of all ranks; but this number was shortly extended to 542, viz., one superintendent, to receive 250*l.*; 13 inspectors, at 118*l.*, 1537*l.* 18*s.*: 50 serjeants at 63*l.* 14*s.*, 3185*l.*; and 479 men, at 22*s.* 6*d.*, 20*s.* 6*d.*, 19*s.* 6*d.*, 18*s.* 6*d.*, and 17*s.* 6*d.* per week; in all, 24,663*l.* 19*s.* The salaries of the office establishment are estimated for the same year at 510*l.*; a surgeon at 200*l.*; uniforms, hats, and boots, 3,476*l.*; rents, taxes, repairs, &c., 1,640*l.*; pensions 1,250*l.*; and miscellaneous expenses for printing, &c., 1,783; making an estimated total for 1843 of 39,295*l.* 17*s*†.

Total Charge of the Police of the Metropolis.

The sums actually levied by police rates upon the wards of the City of London, for its separate establishment, were, in the year 1847, 30,064*l.* 17*s.* 1½*d.*, and 1848, 27,801*l.* 1*s.* 9*d.*; the total sum levied in the former year upon the whole metropolis was, therefore, 249,666*l.* 15*s.* 7½*d.*, and in the latter 284,061*l.* 13*s.* 3*d.* The charge upon the consolidated fund for the Metropolitan Police being for 1848, 72,089*l.* 15*s.* 2*d.*; the total charge of the police of the whole metropolis for that year was therefore no less than 356,151*l.* 8*s.* 5*d.* The manner in which the local charge falls upon each subdivision of the metropolis will appear from the following statements:—

Account specifying the Total Sum charged upon, and received from every Parish, Township, Precinct and Place, for the purposes of the Metropolitan Police, for the Year 1848, *as required by the Act* 10 *Geo. IV., c.* 44, *s.* 29.

HALF-YEARLY WARRANTS, issued on the 1st January and 1st July 1848.

1st.—(ORIGINAL DISTRICT.)

nty.	Letter of Division.	Parishes, &c.	Rental upon which Computed. £ s. d.	Total of the Rate for the Year, at 8*d.* in the Pound. £ s. d.	Charged upon the Parishes, at 6*d.* in the Pound. £ s. d.	Received from the Parishes. £ s. d.
llesex	T	Acton	15,736 0 0	524 10 8	393 8 0	393 8 0
	K	All Saints, Poplar	134,412 0 0	4,480 8 0	3,360 6 0	3,360 6 0
ey ...	V	Barnes	8,875 10 0	295 17 0	221 17 9	221 17 9
	V	Battersea	41,714 0 0	1,390 9 4	1,042 17 0	1,042 17 0
llesex	K	Bromley, Saint Leonard	26,360 0 0	878 13 4	659 0 0	659 0 0
	G	Charter-house	1,948 0 0	64 18 8	48 14 0	48 14 0
ey ...	T	Chiswick	22,624 0 0	754 2 8	565 12 0	565 12 0
llesex	L	Christchurch	57,507 0 0	1,916 18 0	1,437 13 6	1,437 13 6
ey ...	H	Christchurch, Spitalfields	33,316 0 0	1,110 10 8	832 18 0	832 18 0
	V	Clapham	64,881 10 0	2,162 14 4	1,622 0 9	1,622 0 9
	T	Ealing	42,588 0 0	1,419 12 0	1,064 14 0	1,064 14 0
llesex	V	Fulham	43,668 0 0	1,455 12 0	1,091 14 0	1,091 14 0
	G	Furnival's Inn (the part within Middlesex)	3,600 0 0	120 0 0	90 0 0	90 0 0
	E	Gray's Inn	13,500 0 0	450 0 0	337 10 0	337 10 0
		Carried forward	510,730 0 0	17,024 6 8	12,768 5 0	12,768 5 0

* Pulling, on the Laws and Customs of London, pp. 164, 165.

† Minutes of Common Council, 1st November, 1842, p. 246.

HALF-YEARLY WARRANTS, issued on the 1st January, and 1st July, 1848.—*Continued.*

1st.—(ORIGINAL DISTRICT.)

County.	Letter of Division.	Parishes, &c.	Rental upon which Computed.	Total of the Rate for the Year, at 8*d.* in the Pound.	Charged upon the Parishes, at 6*d.* in the Pound.	Received from the Parish
			£ s. d.	£ s. d.	£ s. d.	£ s.
		Brought forward	510,730 0 0	17,024 6 8	12,768 5 0	12,768 5
Kent	R	Greenwich	91,347 0 0	3,044 18 0	2,283 13 6	2,283 13
	T	Hammersmith, Hamlet of	60,976 0 0	2,032 10 8	1,524 8 0	1,524 8
	T	Kensington	187,624 0 0	6,254 2 8	4,690 12 0	4,690 12
	F	Lincoln's Inn	13,880 0 0	462 13 4	347 0 0	347 0
	H	Mile End, New Town, Hamlet of	10,584 0 0	352 16 0	264 12 0	264 12
Middlesex	K	Mile End, Old Town, Hamlet of	138,432 0 0	4,614 8 0	3,460 16 0	3,460 16
	T	New Brentford, Township of	8,148 0 0	271 12 0	203 14 0	203 14
	H	Norton Folgate, Liberty of	7,952 0 0	265 1 4	198 16 0	198 16
	H	Old Artillery Ground	3,978 0 0	132 12 0	99 9 0	99 9
	H	Old Tower Precinct	2,689 0 0	89 12 8	67 4 6	67 4
	D	Paddington	316,220 0 0	10,540 13 4	7,905 10 0	7,905 10
Surrey	P	Penge, Hamlet of	4,525 0 0	150 16 8	113 2 6	113 2
	V	Putney, including Roehampton	29,534 0 0	984 9 4	738 7 0	738 7
Middlesex	K	Ratcliffe, Hamlet of	38,140 0 0	1,271 6 8	953 10 0	953 10
	F	Rolls, Liberty of the	16,492 0 0	549 14 8	412 6 0	412 6
Surrey	M	Rotherhithe	52,064 0 0	1,735 9 4	1,301 12 0	1,301 12
	E & G	St. Andrew, Holborn, and St. George-the-Matryr	138,056 0 0	4,601 17 4	3,451 8 0	3,451 8
	K	St. Ann, Limehouse	52,616 0 0	1,753 17 4	1,315 8 0	1,315 8
	C	St. Ann, Westminster	91,292 0 0	3,043 1 4	2,282 6 0	2,282 6
Middlesex	H	St. Catherine, Tower Division	16,000 0 0	533 6 8	400 0 0	400 0
	F	St. Clement's Danes, Westminster, and that part within the Duchy Liberty	87,124 0 0	2,904 2 8	2,178 2 0	2,178 2
	H	St. George in-the-East	167,656 0 0	5,588 10 8	4,191 8 0	4,191 8
	B & C	St. George, Hanover-square	828,732 0 0	27,624 8 0	20,718 6 0	20,718 6
Surrey	M & L	St. George, Southwark	113,004 0 0	3,766 16 0	2,825 2 0	2,825 2
	P	St. Giles, Camberwell	167,509 0 0	5,583 12 8	4,187 14 6	4,187 14
	E & F	St. Giles-in-the-Fields and St. George, Bloomsbury	265,928 0 0	8,864 5 4	6,648 4 0	6,648 4
Middlesex	G	St. James, Clerkenwell (including the District of St. John)	220,668 0 0	7,355 12 0	5,516 14 0	5,516 14
	C	St. James, Westminster	421,948 0 0	14,064 18 8	10,548 14 0	10,548 14
	N	St. John, Hackney	164,688 0 0	5,489 12 0	4,117 4 0	4,117 4
	S	St. John, Hampstead	64,816 0 0	2,160 10 8	1,620 8 0	1,620 8
urrey	M	St. John, Southwark	38,087 0 0	1,269 11 4	952 3 6	952 3
	K	St. John, Wapping	35,112 0 0	1,170 8 0	877 16 0	877 16
	G	St. Leonard, Shoreditch	252,952 0 0	8,431 14 8	6,323 16 0	6,323 16
	B & V	St. Luke, Chelsea	169,320 0 0	5,644 0 0	4,233 0 0	4,233 0
Middlesex	G	St. Luke, Finsbury	153,980 0 0	5,132 13 4	3,849 10 0	3,849 10
	B	St. Margaret and St. John, Westminster	212,396 0 0	7,079 17 4	5,309 18 0	5,309 18
	C & F	St. Martin-in-the-Fields	259,296 0 0	8,643 4 0	6,482 8 0	6,482 8
	N	St. Mary, Islington	309,844 0 0	10,328 2 8	7,746 2 0	7,746 2
Surrey	L	St. Mary, Lambeth	459,888 10 0	15,329 12 4	11,497 4 3	11,497 4
	D	St. Mary-le-bone	987,548 0 0	32,918 5 4	24,688 14 0	24,688 14
Middlesex	F	St. Mary-le-Strand, Westminster, and that part within the Duchy Liberty	15,108 0 0	503 12 0	377 14 0	377 14
	M	St. Mary Magdalene, Bermondsey	99,375 0 0	3,312 10 0	2,484 7 6	2,484 7
Surrey	L & P	St. Mary, Newington	163,823 0 0	5,460 15 4	4,995 11 6	4,995 11
	N	St. Mary, Stoke Newington	25,228 0 0	1,840 18 8	630 14 0	630 14
	K	St. Mary, Stratford Bow	23,820 0 0	794 0 0	595 10 0	595 10
Middlesex	H	St. Mary, Whitechapel	90,024 0 0	3,000 16 0	2,250 12 0	2,250 12
	H	St. Matthew, Bethnal Green	96,816 0 0	3,227 4 0	2,420 8 0	2,420 8
Kent	R	St. Nicholas, Deptford	10,570 0 0	352 6 8	264 5 0	264 5
Surrey	M	St. Olave, Southwark	44,848 0 0	1,494 18 8	1,121 4 0	1,121 4
Middlesex	E & S	St. Pancras	655,612 0 0	21,853 14 8	16,390 6 0	16,390 6
	F	St. Paul, Covent Garden	44,532 0 0	1,484 8 0	1,113 6 0	1,113 6
Kent	R	St. Paul, Deptford (including the Hamlet of Hatcham)	54,554 0 0	1,818 9 4	1,363 17 0	1,363 17
		Carried forward	3,496,077 10 0	283,202 14 0	212,402 2 9	212,402 2

HALF-YEARLY WARRANTS, issued on the 1st January, and 1st July, 1848.—*Continued.*

1st.—(ORIGINAL DISTRICT.)

County.	Letter of Division.	Parishes, &c.	Rental upon which Computed.	Total of the Rate for the Year, at 8*d.* in the Pound.	Charged upon the Parishes, at 6*d.* in the Pound.	Received from the Parishes.
			£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
		Brought forward	8,496,077 10 0	283,202 14 0	212,402 2 9	212,402 2 9
Middlesex	K	St. Paul, Shadwell	29,096 0 0	969 17 4	727 8 0	727 8 0
	B	St. Peter, Westminster, Close of the Collegiate Church of	1,061 0 0	35 7 4	26 10 6	26 10 6
Surrey ...	M	St. Saviour's and the Clink Liberty ...	83,033 0 0	2,767 15 4	2,075 16 6	2,075 16 6
Middlesex	G	St. Sepulchre, Finsbury	16,728 0 0	557 12 0	418 4 0	418 4 0
Surrey ...	M	St. Thomas, Southwark	4,404 10 0	146 16 4	110 2 3	110 2 3
	G	Saffron Hill, Hatton Garden, and Ely Rents, Liberty of	30,692 0 0	1,023 1 4	767 6 0	767 6 0
Middlesex	F	Savoy, Holborn Division.....	8,780 0 0	292 13 4	219 10 0	219 10 0
	H	Smithfield, East	46,120 0 0	1,537 6 8	1,153 0 0	1,153 0 0
	F	Staple's Inn	1,800 0 0	60 0 0	45 0 0	45 0 0
Surrey ...	P	Streatham.....	38,654 10 0	1,288 9 8	966 7 3	966 7 3
	V	Tooting	8,265 0 0	275 10 0	206 12 6	206 12 6
Middlesex	H	Trinity, Minories.....	2,346 0 0	78 4 0	58 13 0	58 13 0
Surrey ...	V	Wandsworth.....	33,066 10 0	1,102 4 4	826 13 3	826 13 3
		Totals of "Original District" ...	8,800,132 0 0	293,337 14 8	220,003 6 0	220,003 6 0

HALF-YEARLY WARRANTS, issued on the 1st January, and 1st July, 1848.

2nd.—(EXTENDED DISTRICT.)

County.	Letter of Division.	Parishes, &c.	Rental upon which Computed.	Total of the Rate for the Year, at 8*d.* in the Pound.	Charged upon the Parishes, at 6*d.* in the Pound.	Received from the Parishes.
			£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
Surrey ...	P	Addington.....	3,912 0 0	130 8 0	97 16 0	97 16 0
Kents.....	S	Aldenham	8,654 0 0	288 9 4	216 7 0	216 7 0
	S	,, Hamlet of Theobald Street...	3,179 0 0	105 19 4	79 9 6	79 9 6
Middlesex	V	Ashford	3,116 0 0	103 17 4	77 18 0	77 18 0
Surrey ...	P	Banstead	5,527 10 0	184 5 0	138 3 9	138 3 9
	K	Barking, Town Ward	5,303 0 0	176 15 4	132 11 6	132 11 6
Essex ...	K	,, Chadwell ditto.....	3,738 0 0	124 12 0	93 9 0	93 9 0
	K	,, Great Ilford ditto	10,930 0 0	364 6 8	273 5 0	273 5 0
	K	,, Ripple ditto	6,290 0 0	209 13 4	157 5 0	157 5 0
Kents.....	S	Barnet, East	5,016 0 0	167 4 0	125 8 0	125 8 0
Kent	R	Beckenham	9,519 0 0	317 6 0	237 19 6	237 19 6
Surrey ...	P	Beddington	5,544 0 0	184 16 0	138 12 0	138 12 0
Middlesex	T	Bedfont, East	5,952 0 0	198 8 0	148 16 0	148 16 0
Kent	R	Bexley	17,018 0 0	567 5 4	425 9 0	425 9 0
	R	Bromley.....	18,210 0 0	607 0 0	455 5 0	455 5 0
Kents.....	S	Bushey	9,525 0 0	317 10 0	238 2 6	238 2 6
Surrey ...	P	Carshalton.....	10,396 0 0	346 10 8	259 18 0	259 18 0
Kent	R	Charlton	15,559 0 0	518 12 8	388 19 6	388 19 6
Surrey ...	P & V	Cheam	4,935 10 0	164 10 4	123 7 9	123 7 9
Kents.....	N	Cheshunt	27,764 0 0	925 9 4	694 2 0	694 2 0
Surrey ...	V	Chessington	1,481 0 0	49 7 4	37 0 6	37 0 6
Essex.....	K	Chigwell.....	10,355 0 0	345 3 4	258 17 6	258 17 6
	N	Chingford	4,819 0 0	160 12 8	120 9 6	120 9 6
Kents.....	S	Chipping Barnet	6,559 0 0	218 12 8	163 19 6	163 19 6
Kent	R	Chiselhurst	6,978 0 0	232 12 0	174 9 0	174 9 0
Surrey ...	P	Coulsdon	12,261 0 0	408 14 0	306 10 6	306 10 6
		Carried forward.....	222,520 0 0	7,418 0 8	5,563 10 6	5,563 10 6

HALF-YEARLY WARRANTS, issued on the 1st January, and 1st July, 1848.—*Continued.*

2nd.—(EXTENDED DISTRICT.)

County.	Letter of Division.	Parishes, &c.	Rental upon which Computed.	Total of the Rate for the Year, at 8*d.* in the Pound.	Charged upon the Parishes, at 6*d.* in the Pound.	Received from the Parish
			£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.*
		Brought forward	222,520 0 0	7,418 0 8	5,563 10 6	5,563 10
Middlesex	T	Cowley	2,092 0 0	69 14 8	52 6 0	52 6
Kent	T	Cranford	2,688 0 0	89 12 0	67 4 0	67 4
Surrey ...	R	Crayford	8,732 0 0	291 1 4	218 6 0	218 6
Essex.....	P	Croydon.....	72,631 10 0	2,421 1 0	1,815 15 9	1,815 15
Kent	V	Cuddington	2,315 10 0	77 3 8	57 17 9	57 17
Middlesex	K	Dagenham.....	9,136 0 0	304 10 8	228 8 0	228 8
	R	Down	1,791 0 0	59 14 0	44 15 6	44 15
	T	Drayton, West	4,448 0 0	148 5 4	111 4 0	111 4
	S	Edgware	5,284 0 0	176 2 8	132 2 0	132 2
	N	Edmonton.....	38,656 0 0	1,288 10 8	966 8 0	966 8
Herts.....	S	Elstree	3,230 0 0	107 13 4	80 15 0	80 15
Kent	R	Eltham	11,435 0 0	381 3 4	285 17 6	285 17
Middlesex	N	Enfield	42,592 0 0	1,419 14 8	1,064 16 0	1,064 16
Surrey ...	V	Epsom	14,299 10 0	476 13 0	357 9 9	357 9
Kent	R	Erith	7,830 0 0	261 0 0	195 15 0	195 15
Surrey ...	V	Ewell, exclusive of Kingswood Liberty	6,880 10 0	229 7 0	172 0 3	172 0
	P	Farley	752 0 0	25 1 4	18 16 0	18 16
Kent	R	Farnborough.....	2,214 0 0	73 16 0	55 7 0	55 7
Middlesex	V	Feltham.....	5,160 0 0	172 0 0	129 0 0	129 0
	S	Finchley	14,704 0 0	490 2 8	367 12 0	367 12
Kent	R	Footscray	2,253 0 0	75 2 0	56 6 6	56 6
	S	Fryern Barnet	4,856 0 0	161 17 4	121 8 0	121 8
Middlesex	T	Greenford	5,336 0 0	177 16 4	133 8 0	133 8
	S	Hadley, Monken	3,720 0 0	124 0 0	93 0 0	93 0
Surrey ...	V	Ham-with-Hatch, Hamlet of.....	6,370 0 0	212 6 8	159 5 0	159 5
	K	Ham (East)	8,191 0 0	273 0 8	204 15 6	204 15
Essex.....	K	Ham (West), Church-street Ward ...	10,289 0 0	342 19 4	257 4 6	257 4
	K	,, Plaistow ditto	8,205 0 0	273 10 0	205 2 6	205 2
	K	,, Stratford ditto	13,253 0 0	441 15 4	331 6 6	331 6
	V	Hampton, Town and Court	12,944 0 0	431 9 4	323 12 0	323 12
	V	Hampton Wick, Liberty of	6,528 0 0	217 12 0	163 4 0	163 4
	T	Hanwell.....	7,724 0 0	257 9 4	193 2 0	193 2
	V	Hanworth	3,540 0 0	118 0 0	88 10 0	88 10
Middlesex	T	Harefield	8,400 0 0	280 0 0	210 0 0	210 0
	T	Harlington	6,556 0 0	218 10 8	163 18 0	163 18
	T	Harmondsworth	8,752 0 0	291 14 8	218 16 0	218 16
	T	Harrow	41,000 0 0	1,366 13 4	1,025 0 0	1,025 0
	T	Hayes.....	12,128 0 0	404 5 4	303 4 0	303 4
Kent	R	Hayes.....	2,271 0 0	75 14 0	56 15 6	56 15
	S	Hendon	29,836 0 0	994 10 8	745 18 0	745 18
Middlesex	T	Heston	20,748 0 0	691 12 0	518 14 0	518 14
	T	Hillingdon	31,268 0 0	1,042 5 4	781 14 0	781 14
Surrey ...	V	Hook, Hamlet of	782 10 0	26 1 8	19 11 3	19 11
	N	Hornsey	33,496 0 0	1,116 10 8	837 8 0	837 8
Middlesex	T	Ickingham.....	2,832 0 0	94 8 0	70 16 0	70 16
	T	Isleworth	26,148 0 0	871 12 0	653 14 0	653 14
Kent	R	Keston	2,263 0 0	75 8 8	56 11 6	56 11
Surrey ...	V	Kew	4,650 0 0	155 0 0	116 5 0	116 5
Kent	R	Kidbrooke, Liberty of.....	5,566 0 0	185 10 8	139 3 0	139 3
Middlesex	S	Kingsbury.....	5,508 0 0	183 12 0	137 14 0	137 14
Surrey ...	V	Kingston-on-Thames	36,316 0 0	1,210 10 8	907 18 0	907 18
Middlesex	V	Laleham	3,564 0 0	118 16 0	89 2 0	89 2
Kent	R	Lee.....	10,409 0 0	346 19 4	260 4 6	260 4
	R	Lewisham	51,590 0 0	1,719 13 4	1,289 15 0	1,289 15
Essex.....	K	Little Ilford	1,554 0 0	51 16 0	38 17 0	38 17
Middlesex	V	Littleton	1,344 0 0	44 16 0	33 12 0	33 12
Surrey ...	V	Long Ditton	4,157 0 0	138 11 4	103 18 6	103 18
Essex.....	K	Loughton	4,431 0 0	147 14 0	110 15 6	110 15
	N	Low Leyton	12,034 0 0	401 2 8	300 17 0	300 17
Surrey ...	V	Maldon	1,584 10 0	52 16 4	39 12 3	39 12
	V	Merton	6,745 10 0	224 17 0	168 12 9	168 12
Middlesex	S	Mimms (South)	14,580 0 0	486 0 0	364 10 0	364 10
		Carried forward.....	966,312 10 0	32,213 1 4	24,159 16 0	24,159 16

HALF-YEARLY WARRANTS, issued on the 1st January, and 1st July, 1848.—*Continued.*

2nd.—(EXTENDED DISTRICT.)

County.	Letter of Division.	Parishes, &c.	Rental upon which Computed. £	s.	d.	Total of the Rate for the Year, at 8d. in the Pound. £	s.	d.	Charged upon the Parishes, at 6d. in the Pound. £	s.	d.	Received from the Parishes. £	s.	d.
		Brought forward	966,312	10	0	32,213	1	4	24,159	16	0	24,159	16	0
urrey ...	P	Mitcham	15,550	0	0	518	6	8	388	15	0	388	15	0
	V	Mordon	4,198	0	0	139	18	8	104	19	0	104	19	0
	V	Mortlake	13,124	0	0	437	9	4	328	2	0	328	2	0
ent	R	Mottingham (Hamlet of)	1,813	0	0	60	8	8	45	6	6	45	6	6
urrey ...	V	Moulsey (East)	3,559	10	0	118	13	0	88	19	9	88	19	9
	V	Moulsey (West)	2,586	0	0	86	4	0	64	13	0	64	13	0
erts.....	S	Northaw	3,942	0	0	131	8	0	98	11	0	98	11	0
ent	R	Northcray	3,695	0	0	123	3	4	92	7	6	92	7	6
iddlesex	T	Northolt	4,908	0	0	163	12	0	122	14	0	122	14	0
	T	Norwood, Precinct of	12,944	0	0	431	9	4	323	12	0	323	12	0
ent	R	Orpington	3,930	0	0	131	0	0	98	5	0	98	5	0
iddlesex	T	Perivale	1,540	0	0	51	6	8	38	10	0	38	10	0
urrey ...	V	Petersham	4,699	10	0	156	13	0	117	9	9	117	9	9
iddlesex	T	Pinner, Hamlet of	11,048	0	0	368	5	4	276	4	0	276	4	0
ent	R	Plumstead	11,010	0	0	367	0	0	275	5	0	275	5	0
urrey ...	V	Richmond	37,305	10	0	1,243	10	4	932	12	9	932	12	9
erts.....	S	Ridge	4,737	0	0	157	18	0	118	8	6	118	8	6
iddlesex	T	Ruislip	10,748	0	0	358	5	4	268	14	0	268	14	0
ent	R	St. Mary's Cray	4,349	0	0	144	19	4	108	14	6	108	14	6
	R	St. Paul's Cray	3,157	0	0	105	4	8	78	18	6	78	18	6
urrey ...	P	Sanderstead	3,989	10	0	132	19	8	99	14	9	99	14	9
erts.....	S	Shenley	6,147	0	0	204	18	0	153	13	6	153	13	6
	V	Shepperton	5,728	0	0	190	18	8	143	4	0	143	4	0
	T	Staines	13,192	0	0	439	14	8	329	16	0	329	16	0
iddlesex	S	Stanmore, Great	7,128	0	0	237	12	0	178	4	0	178	4	0
	S	Stanmore, Little	4,604	0	0	153	9	4	115	2	0	115	2	0
	T	Stanwell	10,680	0	0	356	0	0	267	0	0	267	0	0
	V	Sunbury	10,004	0	0	333	9	4	250	2	0	250	2	0
urrey ...	P	Sutton	5,533	10	0	184	9	0	138	6	9	138	6	9
iddlesex	V	Teddington	7,084	0	0	236	2	8	177	2	0	177	2	0
urrey ...	V	Thames Ditton, comprising the Hamlet or Manor of Cleygate, the Hamlet of Ember, and Hamlet of Weston	9,786	10	0	326	4	4	244	13	3	244	13	3
iddlesex	N	Tottenham	44,336	0	0	1,477	17	4	1,108	8	0	1,108	8	0
erts.....	S	Totteridge	4,126	0	0	137	10	8	103	3	0	103	3	0
	V	Twickenham	27,912	0	0	930	8	0	697	16	0	697	16	0
iddlesex	T	Twyford Abbey, Liberty of	532	0	0	17	14	8	13	6	0	13	6	0
	T	Uxbridge, Township and Chapter of	14,188	0	0	472	18	8	354	14	0	354	14	0
urrey ...	P	Wallington, Hamlet of	4,243	0	0	141	8	8	106	1	6	106	1	6
	N	Waltham Abbey and Town, including the Hamlets of Holyfield, of Sewardstone and of Upshire	18,662	0	0	622	1	4	466	11	0	466	11	0
ssex.....	N	Walthamstow	17,984	0	0	599	9	4	449	12	0	449	12	0
	K	Wanstead	6,858	0	0	228	12	0	171	9	0	171	9	0
urrey ...	P	Warlingham	1,480	10	0	49	7	0	37	0	3	37	0	3
ent	R	Wickham, East	2,891	0	0	96	7	4	72	5	6	72	5	6
	R	Wickham, West	3,715	0	0	123	16	8	92	17	6	92	17	6
urrey ...	V	Wimbledon	17,954	0	0	598	9	4	448	17	0	448	17	0
iddlesex	S	Willesden	26,592	0	0	886	8	0	664	16	0	664	16	0
ssex.....	K	Woodford	10,578	0	0	352	12	0	264	9	0	264	9	0
urrey ...	P	Woodmansterne	2,013	0	0	67	2	0	50	6	6	50	6	6
ent	R	Woolwich	40,372	0	0	1,345	14	8	1,009	6	0	1,009	6	0
		Totals of "Extended District"...	1,450,291	0	0	48,343	0	8	36,257	5	6	36,257	5	6

A Statement of the Amounts received from the several Wards of the City upon each Police Rate in the Year 1848, *showing at what rate in the pound the same were charged upon the Wards, and the rate in the pound actually paid into the hands of the Treasurer in respect of such Rates.*

[From Commons' Papers, 1849, No. 298.]

	£	s.	d.
Aldersgate Within	384	6	0
Aldersgate Without	504	11	0
Aldgate	1,255	0	0
Bassishaw	323	14	1
Billingsgate	690	0	0
Bishopsgate Within	965	16	8
Bishopsgate Without	940	0	0
Bread Street	775	1	8
Bridge	526	11	10
Broad Street	2,017	1	2
Candlewick	490	13	3
Castlebaynard	1,044	6	5
Cheap	1,025	12	1
Coleman Street	1,487	18	7
Cordwainer	433	17	0
Cornhill	851	10	5
Cripplegate Within	1,131	8	6
Carried forward	14,847	8	8

	£	s.	d.
Brought forward	14,847	8	8
Cripplegate Without	897	18	4
Dowgate	491	14	0
Farringdon Within, South side	925	5	11
Farringdon Within, North side	978	2	9
Farringdon Without	4,510	8	8½
Langbourn	1,053	5	9
Lime Street	475	0	0
Portsoken	1,032	6	11
Queenhithe	378	12	11
Tower	1,278	8	6
Vintry	378	12	7
Walbrook	488	15	0
Half Rates	65	1	8½
Total	27,801	1	9

NOTE.—Rate made at 6½*d.* in the pound; actually paid, equal to 5¾*d.* in the pound.

The most complete outline that can be given of the economy of these enormous establishments is that conveyed by the following abstracts of their income and expenditure in the year 1848, derived from the Commons' Papers of 1849, Nos. 41 and 298.

An Account of the Receipt and Expenditure, for the Service of the Metropolitan Police, the Year ended the 31*st December,* 1848.

RECEIPTS.

	£	s.	d.	£	s.
To balance on the 1st January, 1848				62,587	2
	Amounts Received from				
	Parishes.			Consolidated Fund.	
To receipts on Rate Warrants issued during the year 1848, the particulars of which are detailed according to the provisions of the 29th section of the Act 10 Geo. IV., c. 44, in Appendix (A), pages 10 to 15: viz.—					
Rentals upon which computed.					
Original district £8,800,132	220,003	6	0	60,000	0 0
Extended ditto 1,450,291	36,257	5	6	12,085	15 2
Carried forward	256,260	11	6	72,085	15 2
				328,346	6

RECEIPTS.—*Continued.*

	Amounts Received from Parishes. £ s. d.	Amounts Received from Consolidated Fund. £ s. d.	£ s. d.
balance on the 1st January, 1848. Brought forward			62,587 2 11
Brought forward	256,260 11 6	72,085 15 2	328,346 6 8
receipts from the Consolidated Fund, per Act 2 & 3 Vict., c. 47, s. 6: viz.—			
1st. To defray the increased charge of the Metropolitan Police, arising from the addition of the duties of the Horse Patrol and Thames Police	....	20,000 0 0	
2nd. To defray the charge of the Superannuation allowances to officers and constables late of the Bow Street Foot Patrol, Horse Patrol, and Thames Police	....	3,611 19 8	
			23,611 19 8
amount issued from the Consolidated Fund for the salaries of the two Commissioners of Police, under the authority of the Act 2 & 3 Vict., c. 47, s. 20	....	2,400 0 0	2,400 0 0
Total sum received from the Parishes and the Treasury respectively, in the year 1848	256,260 11 6	98,097 14 10	

amounts received for special services of the police: viz.—					
At Osborne, Isle of Wight	82	4	0		
House of Commons	214	14	0		
Admiralty, Somerset House	82	4	0		
Ditto Deptford Dockyard	2,636	2	0		
Ditto Woolwich ditto	2,821	16	0		
Ditto Office for the Registry of Merchant Seamen	72	0	0		
British Museum	27	12	0		
Custom House	760	0	0		
Excise, checking stage carriages	602	4	1		
Greenwich Hospital	123	16	0		
Office of Woods, &c., Botanic Gardens, Kew	55	1	0		
Ditto Bushey Park	55	4	0		
Ditto Greenwich Park	247	16	0		
Ditto Hampton Court	135	4	0		
Ditto Lines of new streets	369	18	0		
Ditto New Forest	19	4	0		
Ordnance, Tower of London	1,025	3	0		
Ditto Royal Arsenal, Woolwich	948	9	0		
Post Office	156	0	0		
Record Office	259	12	0		
Stamp Office, Somerset House	164	14	0		
				10,858 11 1	
From public companies, private individuals, &c.				2,246 13 4	
Theatres				377 2 6	
				13,482 6 11	
Carried forward				....	416,945 9 3

RECEIPTS.—*Continued.*	£	s.	d.	£	s.
Brought forward	13,482	6	11	416,945	9
To amounts received for the conveyance of prisoners: viz.—					
In the Greenwich and Woolwich van	119	19	1		
Hammersmith van	66	8	0		
Maidstone van	922	3	3		
Surrey van	500	0	0		
	1,608	10	4		
To assessments on police constables for repair of clothing	20	14	11		
Stoppages from the pay of the Police Force for lodging	4,888	17	11		
Proceeds of the sale of old stores	35	9	4		
Proceeds of the sale of 39 cast horses	381	1	3		
Contributions to the Civil Superanuation Fund, by clerks, &c.	78	18	9		
Miscellaneous receipts	0	6	0		
				20,496	5
				437,441	14

EXPENDITURE.	£	s.	d.	£	s.
1.—Office Expenses.					
By salaries and allowances, Commissioners' Department:	£	s.	d.		
Two Commissioners, at 1,200*l.* per annum each	2,400	0	0		
Allowances to ditto for house-rent, at 300*l.* per annum each	613	2	6		
Ditto ditto for keep of 2 horses, at 63*l.* per annum each	126	0	0		
Four clerks, at salaries varying from 100*l.* to 430*l.* per annum	796	15	0		
	3,935	17	6		
By salaries and allowances, Receiver's Department:—					
One Receiver, at 1,000*l.* per annum (paid out of Police Courts' Fund).					
Allowance to ditto for keep of a horse, at 63*l.* per annum (paid out of Police Courts' Fund).					
One surveyor, at 275*l.* per annum (the remainder of his salary charged to Police Courts' Fund), and an assistant at 3*l.* 3*s.* per week	338	16	0		
Four clerks, at salaries varying from 125*l.* to 440*l.* per annum	1,084	0	0		
	1,422	16	0		
By pay of an office-keeper	90	0	0		
And allowance for three charwomen	54	18	0		
	144	18	0		
By office rent, taxes, repairs, &c.:—					
Rent of No. 4, Whitehall Place	433	10	0		
Rates and taxes of ditto	108	16	0		
Furniture, repairs, &c.	62	9	5		
	604	15	5		
By fuel and light:—					
Coals	51	13	8		
Oil and Gas	91	1	9		
	142	15	5		
Carried forward	....		....	6,251	2

EXPENDITURE.—*Continued.*

	£	s.	d.	£	s.	d.
Brought forward	....		....	6,251	2	4
books, printing, and stationery	1,177	15	11			
stamps	127	0	9			
postage	80	7	3			
travelling expenses, coach and cab hire	135	15	3			
newspapers and advertisements	68	5	4			
washing towels, sweeping chimneys, cleaning offices, and other small contingencies	71	8	4			
				1,660	12	10
II.—Law Charges.						
payments for criminal prosecutions, drawing leases, &c.	....		....	580	19	5
III.—Pay, Clothing, and Equipment of Police Force.						
salaries of superintendents of Police:—						
One inspecting superintendent, at 600*l.* per annum	600	0	0			
One superintendent, at 325*l.* per annum	325	0	0			
One ditto, at 300*l.* ,,	300	0	0			
Fifteen ditto, at 250*l.* ,, each	3,748	13	1			
One ditto, at 200*l.* ,,	196	4	8			
	5,169	17	9			
pay of inspectors, serjeants, and constables	268,298	0	9			
extra duty pay to ditto	1,250	0	10			
clothing for serjeants and constables	27,454	18	7			
truncheons, rattles, swords, belts, &c.	1,014	19	5			
				303,187	17	4
IV.—Medical and Funeral Expenses.						
salaries of superintending surgeon (600*l.*), and of 62 district surgeons, at salaries varying from 4*l.* to 45*l.* per annum	1,446	10	0			
medical attendance, medicines, &c., for destitute prisoners, and for poor persons in cases of accident, &c., in the public thoroughfares	484	4	1			
funeral expenses of 37 police constables	145	11	6			
				2,076	5	7
V.—Horses, Vans, &c.						
purchase of 53 horses (41 patrol and 12 van)	1,400	0	0			
forage (187 horses, including 39 for van service)	6,331	2	0			
saddlery, farriery, and stable contingencies (103*l.* 5*s.* 6*d.* received for stable dung, deducted)	1,291	17	3			
purchase and repair of police vans	391	12	0			
				9,414	11	3
VI.—Police Station and Section Houses.						
erection and purchase of premises	19,549	14	3			
rent of station and section houses, &c. (lodging money received in aid of this expense, charged per contra)	7,034	15	3			
rates and taxes	1,406	6	1			
furniture and fixtures	3,022	13	8			
repairs and alteration of premises	2,074	16	11			
cleaning stations	689	17	7			
travelling charges, &c., of the surveyor in visiting stations, turners' wares, sweeping chimneys, and other incidental charges	494	1	10			
				34,272	5	7
Carried forward	....		....	357,443	14	4

EXPENDITURE.—*Continued.*	£	s.	d.	£	s.
Brought forward	....		....	357,443	14
VII.—Fuel and Light.					
By coals supplied to constables and for police stations	6,687	4	6		
By Gas (899*l.* 5*s.* 4*d.*), and gas fittings (315*l.* 2*s.* 9*d.*)	1,214	8	1		
By oil, and cleaning, trimming, and repairing police lanterns	3,678	18	1		
				11,580	10
VIII.—Miscellaneous.					
By refreshments supplied to destitute prisoners, searching female prisoners, candles for stations, saw dust and straw for cells, washing sheets, and other contingencies, paid by superintendents of police	580	19	2		
By extraordinary expenses incurred by police constables while engaged in the pursuit, apprehension, and conveyance of offenders; also expenses and allowances while employed on special occasions, and on detached duties in the country	1,327	8	3		
Building and repair of boats	212	12	8		
				2,121	0
IX.—Retired Allowances.					
By retired allowances to officers and constables late of the Bow Street Foot Patrol, Horse Patrol, and Thames Police (93 on the list on 31st December, 1848)	3,614	12	7		
By retired allowances to two clerks, late in the Commissioners' Department	170	0	0		
				3,784	12
Total sum paid for the Metropolitan Police in the year 1848				374,929	17
By balances remaining on the 31st December, 1848: viz.—					
On the Receiver's account at the Bank of England	39,134	2	11		
In office cash	52	18	3		
Due from the Police Superannuation Fund	23,015	17	0		
Imprests to be accounted for	308	18	10		
				62,511	17
				437,441	14

General Account of the City of London Police for the Year ended 31st December, 1848.

RECEIPTS.

	£	s.	d.
To police rate actually received from the several wards in the account of the year ending 31st December	28,978	19	9½
To payment from the Corporation, being one equal fourth part of expenses	9,940	1	6
To payment from the Corporation, as trustees for watching London Bridge	382	4	0
To payment from the Corporation, as trustees for watching Blackfriars Bridge	286	0	0
To fines and penalties payable to Police Fund	553	10	6
To watching private premises, and sundry and casual receipts	139	13	0
	40,280	8	9½

EXPENDITURE.

	£	s.	d.
By salaries, &c.			
Commissioner's Department:—			
Commissioner, salary	1,130	13	9
Clerks in Commissioner's Department	278	15	0
Receiver's Department:—			
Receiver's salary	250	0	0
Treasurer and Accountant's Department:—			
Treasurer's clerks for keeping accounts	150	0	0
By law charges:—			
Law expenses, conveyancing, drawing leases, &c.	33	11	10
By pay, clothing, and equipment of Force:—			
One superintendent, salary	300	0	0
Pay of inspectors, serjeants, and constables	29,062	0	4
Clothing of inspectors, serjeants, and constables, hats, capes, belts, rattles, and accoutrements	1,920	12	4
By medical expenses:—			
Surgeon, salary (including medicines)	312	10	0
By Chief Office and Commissioner's residence:—			
Rent, rates, taxes, repairs, insurance, lighting, and sundries			
By police stations:—			
Rents, rates, taxes, repairs and alterations, insurance, lighting, and sundries	3,454	8	3½
By printing, books, and stationery:—			
Chief office, stations, Receiver's and Treasurer's Department	238	5	0
By police lanterns:—			
Lanterns supplied, oil, cleaning, trimming and repairing	330	0	0
By extra services of constables	349	4	4
By gratuities paid in 1848 to disabled constables discharged from the Force	530	8	0
By Superannuation Fund:—			
Stoppages of pay	1,032	0	6
	39,372	9	4½
NOTE.—The above expenses are in common with the Metropolitan Police expenditure; those which follow are peculiar to the circumstances of the City Police.			
By late City Watch:—			
By superanuation allowances to constables of the late City Watch	620	19	0
By Committee's expenses:—			
Salary to clerk of Committee for keeping minutes and drawing orders, also gratuities to parties attending and summoning the Committee	150	0	0
Making rates, copying rate-books, and sundry petty expenses	309	18	6
	40,453	6	10½
Balance of cash on the account ended 31st December, 1848	12,198	2	11

The Metropolitan Police Superannuation Fund had a balance in its favour, at the commencement of the year 1848, of 82,829*l.* 12*s.* 3*d.*; the receipts in the course of it from stoppages from pay and from fines was 7,939*l.* 1*s.* 6*d.*; from fines for assaults on constables 1,594*l.* 13*s.* 11*d.*; from sale of old clothing 1,150*l.* 12*s.*; from dividends on stock 2,711*l.* 19*s.* 2*d.*; making a total of 96,225*l.* 18*s.* 10*d.*; while, on the other hand, there is due a balance to the General Metropolitan Police account of 23,015*l.* 17*s.*, for sums advanced to cover the excess of payments beyond the receipts from the interest of the funded property to the 31st December, 1848, which then consisted of 51,259*l.* 7*s.*

in 3¼ per cent. annuities, and 47,059*l.* 12*s.* 3*d.*, in 3 per cent. consols, purchased for 94,490*l.* 4*s.* 10*d.* The receipts of the *City Police Superannuation Fund*, in 1848, were, from fines for assaults on constables 164*l.* 5*s.* 6*d;* stoppages of pay 1,032*l.* 0*s.* 6*d.;* and dividends on stock 376*l.* 19*s.* 11*d.;* making a total of 1,573*l.* 5*s.* 11*d.;* out of which superannuation payments were made to the amount of 139*l.* 1*s.* 4*d.*, leaving a balance on the year of 1,434*l.* 2*s.* 7*d.* applied to the purchase of stock, and rendering the total sum so invested 14,012*l.* 15*s.* 2*d.*, in the purchase of 14,706*l.* 3*s.* 10*d*, 3¼ per cent annuities.

The capital stock of the Police Superannuation Funds for the whole of London at the close of 1848 was, therefore, 109,197*l* ; subject to a debt, on that of the Metropolitan Police, of 23,015*l.* 17*s.*; leaving a net sum of 86,181*l.* 3*s.*

Economy and Efficiency of the City and the Metropolitan Police respectively.

It may be said that the above total of the cost of the City Police is swelled by the watching of the bridges, which was formerly no part of the duty of the general police of the City ; but on the other hand, the present force has been relieved from the special duty at the Old Bailey, to which special constables, paid out of the funds of the corporation, have been appointed by the alderman. Neither in the above account is there charged the 4 per cent. allowed to the ward-beadles, on the collection of the rates, and which is deducted before the payment of their proceeds into the chamber, and which amounted to upwards of 1000*l.*

Again it may be urged that the present police saves to the citizens all which they formerly paid for deputies as ward constables, whose appointment is now abolished. But being accustomed to have about their properties men who were their immediate servants as watchmen, many of the inhabitants of the wards club together for the employment of private watchmen, upon whom they have a direct and personal claim in cases of alarm or depredation.

Adding to the preceding outlay of 40,453*l.* 6*s.* 10½*d.* the sum of 1,326*l.* 5*s.* 6*d.* for the establishment of marshals and marshalsmen, which is still continued, and makes a total of 41,779*l.* 12*s.* 4½*d.*, there still appears a saving of about 1,850*l.* upon the total cost of the former police in 1843.

But it will be borne in mind that the total for 1833 comprises the miscellaneous ward expenses formerly paid out of the watch-rate without any legal sanction. These expenses are now kept in a separate account, under Clause 85 of the City Police Act, reciting that " there are various charges of ward-clerks and beadles, and other expenses connected with the holding of wardmotes or other ward meetings, and for other local purposes connected therewith, within the several wards of the said City, which have heretofore been paid out of the watch-rate ; be it therefore enacted, that all the reasonable charges and expenses of each of the several wards of the said City in respect of the several matters aforesaid, to be from time to time approved and allowed by the inhabitants of each such ward in ward-mote assembled, and certified to the Police Committee of the Common Council, by the aldermen, deputy, and common councilmen of each

ward, or the major part of them, shall be paid by the said Committee out of the rates to be made by virtue of this Act; and the said Committee shall charge the same upon such ward respectively in the next succeeding assessment, when the amount thereof shall be raised in the same manner as and in addition to the rate on such ward for the other purposes of this Act: provided always that a distinct account shall be kept of all such charges and expenses separate from the expense of the police force established under this Act*."

The number of ward-beadles and their salaries, besides profits from poundage on the rates, are annually fixed by the Common Council. In 1842 it was ordered that there should be 1 beadle for each of the wards, except Farringdon within, which was allowed to have 2, and Farringdon without 4; 25*l.* being allowed as salary to those of Bassishaw, Cornhill, and Lime Street; 30*l.* to those of Aldersgate Within, Billingsgate, Bread Street, Bridge, Candlewick, Cheap, Cordwainer, Dowgate, Queenhithe, Vintry, and Walbrook; 35*l.* to those of Aldersgate Without, Bishopsgate Within, Broad Street, Castle Baynard, Cripplegate Within, Langbourne, and Tower; 40*l.* to those of Aldgate and Coleman Street; and 45*l.* to those of Bishopsgate Without, Cripplegate Without, and Portsoken; 70*l.* between the 2 of Farringdon Within, and 150*l.* among the 4 of Farringdon Without; making a total expenditure in salaries to the ward-beadles of 1,185*l.* per annum.

An Account of Monies Received and Paid by the Chamberlain of the City of London, in respect of the Charges of the Ward-Clerks, Beadles, and other Expenses connected with the holding of Wardmotes and other Ward Meetings, and for Local Purposes connected therewith, within the several Wards of the City of London, pursuant to Act 2 & 3 *Vict., c.* 94, *s.* 85.

Dr.

	£	s.	d.	£	s.	d.
To Cash received on account of arrears of rate levied on the several Wards of the City in respect of the above-mentioned expenses, incurred in the years 1840 and 1841	104	8	4			
To ditto, 1842	30	5	5			
To ditto, 1843	57	3	11			
To ditto, 1844	315	14	7			
To Cash received on account of rate levied in respect of the said expenses, incurred in the year 1845.	4,088	2	7½			
				4,595	14	10½
Balance overpaid on the above account				2,853	15	7½
				7,449	10	6

Cr.

By Balance overpaid on the account for the year 1845 (as per statement delivered to the Honourable House of Commons, 14th July, 1846)				3,193	5	8½
By Cash paid in respect of the above-mentioned charges and expenses for the year 1846				4,256	4	9½
				7,449	10	6

From this account it would appear that the present charge is nearly the same as under the old system, when these expenses were included in the general account for the nightly watch. And subtracting from

* 2 & 3 Vict., c. 94, s. 85.

the sum of 4,250*l.*, which appears from the above account for 1846, (the latest that I can find to have been printed by the House of Commons) the apparent saving already mentioned of 1,850*l.*, we have still, in fact, an *increased expenditure* of 2,400*l.* per annum, under the new system as compared with the old; without reckoning the expenses of the Police Committee of the Common Council defrayed by that body, to the amount of about 1000*l.* The reduction of 15,000*l* per annum promised by the Committee of the Common Council in 1832*, at the same time that the Commissioners of Metropolitan Police offered to effect one of 20,000*l.*, must therefore be abandoned.

Nor do the very few data for comparison with which we have been supplied by the City authorities (only on express orders of the House of Commons) yield any indication that this expensive insulation is accompanied by any superiority of management; but quite the reverse. It will be seen from the following figures that the *proportion* dismissed from the service in 1848 was more than double in the City what it was in the Metropolitan Police; while the number of cases in which members of the former have been suspended from duty or fined is one half more than the total number of the whole force, and exceeds by nearly one third the total number of such cases among the Metropolitan Police of ten times their number; precisely the same excess appearing in the other form of disgrace by reduction of rank. How can this be explained? Assuredly it will not be successfully pleaded as evidence of a superior discipline on the part of the City Police before any one accustomed to command, from the teacher of an infant school upward.

Return showing the number of Men in the Metropolitan Police Force who have Resigned, been Dismissed, Suspended, Fined, or reduced in Rank, by the Commissioners, in the Year 1848.

[Commons' Papers, Sess. 1849, No. 133.]

	Metropolitan.	City.	Total.	Per Centage on Total Force.	
				Metropolitan.	City.
Number who have Resigned.....	548	69	617	9·9	12·7
Number who have been Dismissed	187	40	227	3·4	7·4
Number who have been Suspended	127	894	1,593	2·3	164·9
Number who have been Fined	572			10·4	
Number who have been Reduced in Rank.....	11	14	25	·2	2·6
Total.....	1,445	1,017	2,462	26·2	187·6
Total number of Police at the close of the year	5,513	542	6,055		

*** The resignations are chiefly to enter upon higher employments. The number given as that of the City Police is, by the latest return to which I can get access, in 1833.

* Report of Corporation Commissioners on the City, p. 160.

In 1848 the number of police constables sent before the magistrates was, of the Metropolitan force 71, and of the City, apparently 7, which is precisely the same proportion, of which number only 10 of the former, while 3 of the latter were convicted: being a great proportionate excess. Of the former 10, 8 were fined, 1 imprisoned by the magistrates, and 1 committed for trial; of the latter 3, 2 were fined, and 1 imprisoned by the magistrates*.

Return of the Number of Persons taken into Custody, and the Results, in 1848.

[Commons' Papers, Sess. 1849, No. 133.]

Results.	Number of Persons taken into Custody.			Per Centage on the Total Commitments.	
	Metropolitan.	City.	Total.	Metropolitan.	City.
Taken into custody	64,480	13,419	77,899	....	....
Discharged by Magistrates	31,683	1,831	33,514	49·1	13·6
Summarily convicted or held to bail	27,274	3,504	30,778	42·3	26·1
Tried and convicted	4,364	396	4,760	6·8	2·9
Tried and acquitted	905	61	966	1·4	·5
Bill not found, or discharged by proclamation	254	15	269	·4	·1
Drunken persons, discharged when sober	....	2,810	....	....	20·9
Charges not entertained	....	3,865	7,612	....	28.8
Vagrants — Discharged at stations	....	89		....	·7
Vagrants — Discharged by Magistrates	....	248		....	1·9
Vagrants — Committed to prison	....	494		....	3·7
Vagrants — Sent to unions, &c	....	106		....	·8
	64,480	13,419*	77,899	100·0	100·0

* In addition to the above offenders, the number of destitute persons was 1,269.

In the foregoing comparison of the operations of the police within and without the City, derived from the same source, it would appear at the first glance as though there were a great excess of business on the hands of the City police; but on examination it will be seen that of the total of 13,419 persons taken into custody, 6,675, or one half, are for charges not entertained, or for drunkenness, without the parties ever being brought before a magistrate, as are all those returned by the Metropolitan police. The subtraction of these and of 89 others discharged at the stations, reduces the proportion of cases falling to the City police to the general average of the Metropolis; for though the number regularly discharged before the magistrates is thus reduced to about one half of its proper amount, there is a little excess upon the number summarily convicted and held to bail, and a proportionate deficiency upon the numbers ultimately tried and convicted, or acquitted or discharged at the Central Criminal Court; peculiarities

* Commons' Papers, Sess. 1849, No. 133.

which seem to indicate that the station-house and the police-court in the City take liberties with the ordinary course of justice which are not attempted beyond its limits; whether wisely or not, I am quite unable to judge, but these figures certainly suggest inquiry.

The foregoing are the only details with which Parliament or the public have been favoured, respecting the *operations* of the City police, but those of the Metropolitan police are the subject of elaborate and interesting analyses published annually by the Commissioners, and from the latest of these the following summaries are abstracted:

Summary Statements from the Year 1842 *to* 1848, *inclusive.*

Years.	Taken into Custody.	Discharged by the Magistrates.	Summarily Disposed of, or held to Bail.	Committed for Trial.	Convicted and Sentenced.	Acquitted.	Bills not Found, or not Prosecuted.
1842....	65,704	33,609	27,664	4,431	3,316	746	369
1843....	62,477	31,670	26,171	4,636	3,455	831	350
1844....	62,522	31,347	26,871	4,304	3,126	812	366
1845....	59,123	30,317	23,890	4,916	3,548	987	381
1846....	62,834	31,389	26,333	5,112	3,828	878	406
1847....	62,181	31,572	24,689	5,920	4,551	917	452
1848....	64,480	31,683	27,274	5,523	4,364	905	254*

* Ten to be disposed of at the Spring Assizes, 1849.

Number of Persons taken into custody by the Metropolitan Police, during each Month of the Year 1848.

Months.	Males.		Females.		Total.	
	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
January	2,916	6·8	1,471	6·8	4,387	6·8
February	3,537	8·2	1,739	8	5,276	8·1
March	3,373	7·8	1,584	7·3	4,957	7·6
April	3,116	7·2	1,357	6·2	4,473	6·9
May	3,624	8·4	1,876	8·7	5,500	8·5
June	3,383	7·8	1,644	7·6	5,027	7·7
July	3,732	8·6	1,774	8·1	5,506	8·5
August	3,527	8·2	1,735	8	5,262	8·1
September	3,723	8·6	1,997	9·2	5,720	8·8
October	3,899	9	2,218	10·2	6,117	9·4
November.....	4,037	9·3	2,047	9·4	6,018	9·4
December.....	4,066	9·4	2,105	9·7	6,171	9·5
Totals....	42,933	100	21,547	100	64,480	100

Of the male prisoners taken into custody no fewer than 11,235 stated themselves to have no trade or occupation; being upwards of one fourth of the whole. That 17,518 or nine-tenths of the female should make this statement is not so remarkable.

Summary of the Results from each class of Charges, in the Year 1848.

Offences.	Taken into Custody.	Discharged by the Magistrates.	Summarily Convicted or Held to Bail.	Committed for Trial.	Convicted and Sentenced.	Acquitted.	Bills not Found or not Prosecuted.
No. I.—*Offences against the Person.*							
vn and Government Security Bill	32	...	...	32	21	11	...
rder	21	8	...	13	5	8	...
Shooting at, Stabbing, Administering Poison, &c.	22	11	...	11	9	2	...
Cutting and Wounding, with intent, &c	95	28	...	67	51	12	4
Concealing Births of their Infants	11	4	...	7	4	3	...
slaughter	34	20	...	14	3	10	1
omy	9	2	...	7	4	2	1
Assaults, with intent to commit, &c.	13	6	...	7	1	2	4
Extorting Money, under Threats, &c.	1	...	...	1	1	...	...
e	36	11	...	25	10	9	6*a*
Assaults, with intent to commit, &c	34	2	...	32	19	9	4
ciality	10	6	...	4	2	1	1
amy	28	17	...	11	10	1	...
ruction	1	...	...	1	...	...	1
niously demanding Money with Menaces	5	...	...	5	2	...	3
aults, Common	5,295	2,281	2,905	109	69	26	14*b*
On Police	2,485	58	2,388	39	30	7	2
empting to rescue from Custody	200	52	148	...	...	...	...
tructing Police Constables on Duty	173	26	147	...	...	...	...
empting to Commit Suicide	207	147	55	5	1	3	1
II.—*Offences against Property committed with Violence.*							
glary	95	5	...	90	69	16	5*c*
attended with Violence to Persons	1	...	...	1	1	...	...
aking into a Dwelling-house and Stealing	106	19	...	87	74	13	...
into a Dwelling-house, with intent, &c.	4	3	...	1	1	...	...
within Curtilage of a Dwelling-house and Stealing	2	...	...	2	2	...	...
into Shops, Warehouses, Counting-houses, &c.	21	14	...	7	7	...	...
spiracy to break into Dwelling-house with atent, &c.	4	...	...	4	3	1	...
bery	104	4	...	100	74	21	5
Accessory before the Fact	1	...	...	1	1	...	...
„ after the Fact	1	...	...	1	1	...	...
Assaults, with intent to Rob	11	5	...	6	6	...	...
rilege	8	3	...	5	4	1	...
No. III.—*Offences against Property committed without Violense.*							
tle Stealing	8	4	...	4	2	2	...
rse Stealing	27	13	...	14	12	2	...
ep Stealing	11	1	...	10	6	2	2*d*
rceny in a Dwelling-house to the value of £5	203	90	...	113	93	18	2
in a Dwelling-house	195	194	...	1	1	...	...
from the Person	2,378	1,740	...	647	489	113	45
by Servants	561	173	...	388	324	58	6
from Letters containing Bank Notes, &c.	18	...	...	18	16	1	1
Simple	7,040	4,031	...	3,009	2,478	408	13*e*
sdemeanors with intent to Steal	716	286	409	21	14	2	5
bezzlement	262	176	...	86	69	14	3
ceiving Stolen Goods	221	101	...	120	51	61	8
uds	389	292	...	97	71	22	4
spiracy, with intent to defraud	19	4	...	12	2	5	...
g Stealing	49	29	20	...	...	...	...
wning Illegally	127	31	96	...	...	...	...
lawful Possession of Goods	3,092	29	3,063	...	...	...	...
No. IV.—*Malicious Offences against Property.*							
son	9	4	...	5	4	1	...
espasses, Malicious	4	...	4	...	...	...	...
lful Damage	2,794	646	2,148	...	...	...	...
Carried forward	27,602	10,766	11,381	4,941	4,122	867	251

The following will be Tried at the Spring Assizes, 1849:—*a*, Two Males; *b*, Three Males; *c*, Two Males; *d*, Two Males; *e*, One Male.

Summary of the Results from each class of Charges in the Year 1848.—Continued.

Offences.	Taken into Custody.	Discharged by the Magistrates.	Summarily Convicted or Held to Bail.	Committed for Trial.	Convicted and Sentenced.	Acquitted.	Bills not Found or not Prosecuted
Brought forward	27,602	10,776	11,381	4,941	4,122	867	251
No. V. *Forgery and Offences against the Currency.*							
Forgery and Uttering Forged Instruments	51	16	...	35	30	5	...
Coining	5	1	...	4	4	...	...
Coin, (Counterfeit,) putting off, uttering, &c.	1,041	872	...	169	156	13	...
No. VI.—*Offences not included in the above.*							
Accessory to Felony before the Fact	1	...	...	1	...	...	1
„ after the Fact	7	...	...	7	4	3	...
Apprentices, Runaway	76	41	35	...	...	...	...
Being at large under Sentence of Transportation	3	...	...	3	3	...	...
Cruelty to Animals	133	36	97	...	...	...	...
Deserting their Families	172	77	95	...	...	...	...
Deserters	239	23	216	...	...	...	...
Disorderly Characters	4,357	2,605	1,752	...	...	...	...
„ Prostitutes	2,108	211	1,897	...	...	...	...
Drunkenness	8,392	6,937	1,455	...	...	...	...
Drunk and Disorderly Characters	8,069	4,568	3,501	...	...	...	...
Endeavouring to obtain Situations by false Characters	3	...	3	...	...	...	...
Found in Unlicensed Theatres	16	16	...	...	...	...	...
Furious Driving	90	15	75	...	...	...	...
Gambling	477	280	197	...	...	...	...
Keeping Gambling Houses	1	...	...	1	...	...	...
Gambling Houses, found in	49	21	28	...	...	1	...
Hawking without Licence	57	35	22	...	...	...	...
Illicit Distillation	58	12	46	...	...	...	...
Indecently exposing the Person	69	23	45	1	...	...	1
Keeping Common Brothels	6	...	...	6	6	...	...
Mutiny	9	...	...	9	...	9	...
Nuisances	138	38	100	...	...	...	...
Offences under Metropolitan Police Act, Sewers, &c.	1,235	704	531	...	...	...	...
„ Hackney Carriage Act	236	28	208	...	...	...	...
„ Highway and Turnpike Acts	12	2	10	...	...	...	...
„ Juvenile Offenders' Act	533	...	533	...	...	...	...
„ Railway Acts	36	16	20	...	...	...	...
„ Registered Seamen's Act	2	...	...	2	1	1	...
Perjury	2	...	...	2	...	2	...
Poaching	5	...	5	...	...	...	...
Riot	30	...	...	30	26	3	1
Sedition	9	...	...	9	9	...	...
Sending a Threatening Letter	1	...	...	1	1	...	...
Reputed Thieves	695	...	695	...	...	...	...
Smuggling	298	31	267	...	...	...	...
Suspicious Characters	2,959	2,256	703	...	...	...	...
Illegally taking Money for Restoring a Dog	3	...	...	2	2	1	...
Vagrants	5,598	2,243	3,355	...	...	...	...
Total	64,480	31,683	27,274	5,223	4,364	905	254

Table showing the Age, Sex, and Degree of Instruction of the Persons taken into Custody, Summarily Disposed of, or Held to Bail, by the Magistrates, and Tried and Convicted.

	Under 10 Years of Age.		10 Years and under 15.		15 Years and under 20.		20 Years and under 25.		25 Years and under 30.	
	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.
Taken into Custody	312	72	3,604	635	8,776	3,513	9,177	5,046	6,322	4,010
Summarily disposed of, or Held to Bail	73	7	1,421	194	3,921	1,361	4,506	1,907	3,296	1,543
Tried and Convicted	2	...	202	26	1,033	218	919	248	432	181

Table showing the Age, Sex, and Degree of Instruction of the Persons taken into Custody, Summarily Disposed of, or Held to Bail, by the Magistrates, and Tried and Convicted.—(Continued.)

	30 Years and under 40.		40 Years and under 50.		50 Years and under 60.		60 Years & upwards.		Total in the Year 1848.		
	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	M. & F.
Taken into Custody ...	7,997	4,443	4,272	2,346	1,661	890	812	587	42,933	21,547	64,480
Summarily disposed of, or Held to Bail	3,144	1,582	1,893	898	789	307	310	122	19,353	7,921	27,274
Tried and Convicted...	418	201	209	102	82	37	28	25	3,326	1,038	4,364

	DEGREE OF INSTRUCTION.							
	Neither Read nor Write.		Read only, or Read and Write imperfectly.		Read and Write well.		Superior Instruction.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Taken into Custody	14,526	8,442	24,200	12,029	3,218	968	989	108
Summarily disposed of, or Held to Bail.....	6,890	3,766	10,857	3,761	1,246	363	360	31
Tried and Convicted	969	430	2,046	564	289	43	22	1

Number of Persons recognized as having been in Custody more than Once for Felony, during the last Seven Years.

Years.	TWICE.									
	Under Ten Years.	Ten to Fifteen.	Fifteen to Twenty.	Twenty to Twenty-five.	Twenty-five to Thirty.	Thirty to Forty.	Forty to Fifty.	Fifty to Sixty.	Sixty and upwards.	Total.
1842....	12	87	193	120	52	35	12	5	4	520
1843....	3	92	178	111	39	28	15	2	2	470
1844....	4	81	203	118	54	42	20	7	1	530
1845....	4	82	164	119	53	40	13	8	1	484
1846....	7	96	190	119	48	25	12	6	1	504
1847....	10	90	194	133	71	52	13	11	5	579
1848....	3	119	236	165	65	36	17	9	3	653
Total for 7 years.	43	647	1,358	885	382	258	102	48	17	3,740

Number of Persons recognized as having been in Custody more than Once for Felony, during the last Seven Years.—Continued.

Years.	THREE TIMES.									
	Under Ten Years.	Ten to Fifteen.	Fifteen to Twenty.	Twenty to Twenty-five.	Twenty-five to Thirty.	Thirty to Forty.	Forty to Fifty.	Fifty to Sixty.	Sixty and upwards.	Total.
1842....	1	13	38	20	8	7	2	1	1	91
1843....	....	19	39	25	5	3	....	....	1	92
1844....	....	18	27	22	7	5	2	....	1	82
1845....	4	24	32	17	8	9	3	1	....	98
1846....	1	17	25	15	8	6	2	....	....	74
1847....	1	22	56	28	11	8	4	1	....	131
1848....	....	15	51	33	16	10	1	1	1	128
Total for 7 years.	7	128	268	160	63	48	14	4	4	696

Years.	FOUR TIMES.								
	Under Ten Years.	Ten to Fifteen.	Fifteen to Twenty.	Twenty to Twenty-five.	Twenty-five to Thirty.	Thirty to Forty.	Forty to Fifty.	Sixty and upwards.	Total.
1842....	5	9	9	3	....	5	1	....	32
1843....	....	6	7	2	3	1	....	....	19
1844....	....	5	10	5	3	1	2	1	27
1845....	....	2	11	4	3	1	....	....	21
1846....	....	2	10	5	2	....	....	....	19
1847....	....	4	6	1	7	1	1	....	20
1848....	....	6	10	6	2	1	....	....	25
Total for 7 years.	5	34	63	26	20	10	4	1	163

Years.	FIVE TIMES AND UPWARDS.							General Total.
	Ten to Fifteen.	Fifteen to Twenty.	Twenty to Twenty-five.	Twenty-five to Thirty.	Thirty to Forty.	Forty to Fifty.	Total.	
1842....	5	5	4	1	....	....	15	658
1843....	2	4	1	1	....	1	9	590
1844....	3	3	2	....	1	....	9	648
1845....	....	1	....	....	2	....	3	606
1846....	....	1	2	....	....	....	3	600
1847....	1	....	1	....	2	....	4	734
1848....	2	2	2	....	1	....	7	813
Total for 7 years.	13	16	12	2	6	1	50	4649

Return of the Number of Felonies within the Metropolitan Police District affecting Property, and the Number of Convictions under each head; the First Amount of Loss, the Amount Recovered by the Police, and the Total Amount of Loss, in the Year 1848.

	Description of Felony.	Number.	Number of Persons Convicted.	Amount of Loss. First Loss.	Amount Received.	Total Loss.
				£	£	£
	Burglary	49	69	1,350	252	1,098
	—— with violence to persons	....	1	....	....	....
	Breaking into a dwelling-house, &c.	51	74	420	94	326
	—— building, shop, &c.	63	7	418	32	386
	*Embezzlement	179	69	1,184	79	1,805
	*Forgery	16	30	121	12	109
	*Fraud	207	71	1,262	693	569
	Horse stealing	16	12	174	106	68
	Robbery on highway	30	74	319	71	248
	Sheep stealing	56	6	150	76	74
	Cattle stealing	6	2	256	256	....
Larcenies. Common	Goods, &c., exposed for sale	2,114	722	1,484	515	969
Common	Tools, lead, glass, &c., from unfinished houses	832	122	612	136	476
Common	From carts or carriages	299	60	709	155	554
Common	Linen, &c., exposed to dry	302	55	171	27	144
Common	Poultry, &c., exposed in an out-house	601	115	449	106	343
In a dwelling-house, &c.	By false keys only	443	24	4,568	408	4,160
In a dwelling-house, &c.	*By lodgers	1,481	247	3,345	757	2,588
In a dwelling-house, &c.	*By servants	1,250	324	6,521	1,885	4,636
In a dwelling-house, &c.	By doors being left open	2,102	377	5,656	867	4,789
In a dwelling-house, &c.	*By false messages, &c.	451	62	2,111	651	1,460
In a dwelling-house, &c.	By lifting up window or breaking glass	485	37	3,360	230	2,130
In a dwelling-house, &c.	By means unknown	138	11	3,423	25	3,398
From the person.	Picking pockets	875	342	1,581	369	1,212
From the person.	*From drunken persons	143	26	495	93	402
From the person.	From children	103	12	93	11	82
From the person.	*By prostitutes	730	139	3,202	522	2,680
	Larcenies on the Thames	120	47	532	72	460
	Total	13,142	3,137	44,666	8,500	36,166

It is evident that the cases marked thus (*) could not have been prevented by the Police.

Miscellaneous Returns, from the Year 1842 *to* 1848, *inclusive.*

Years.	Number of Persons reported to the Police as Lost or Missing, and the number Found and Restored by the Police.		Number of Suicides Committed, and the number Attempted and Prevented by the Police and others.			Number of Fires reported (Chimneys not included), and the number extinguished by the Police before the arrival of the Engines.		Number of Public Houses and Beer Shops Summoned by the Police, and the number Convicted and Dismissed.			Number of Metropolitan Stage and Hackney Carriages and Carts summoned by the Police, and the numbers Convicted and Dismissed.		
	Reported Lost or Missing.	Restored by the Police.	Suicides Committed.	Suicides attempted, prevented by Police.	Suicides attempted and otherwise prevented.	Number of Fires.	Number extinguished by Police.	Convicted.	Dismissed.	Total.	Convicted.	Dismissed.	Total.
1842	1,179	623	134	18	91	530	42	667	119	786	1,776	226	2,00
1843	1,218	623	112	27	93	438	49	779	174	953	1,868	199	2,05
1844	1,111	543	155	19	123	528	42	699	128	827	2,220	309	2,52
1845	2,201	1,000	144	15	92	404	66	734	155	889	1,371	148	1,51
1846	2,489	1,082	162	24	87	483	106	781	223	1,004	1,595	264	1,85
1847	2,216	1,111	152	13	101	369	78	756	177	933	1,590	194	1,78
1848	1,866	1,009	100	11	67	299	51	762	158	920	1,883	166	2,04

Although some defect in detective ability appears to have ensued on the dispersion of the old establishments under the several stipendiary magistrates, as was anticipated by Sir F. Roe* (a defect which it has since been endeavoured to remedy,) yet it cannot be doubted that this establishment, in the public opinion generally, continues to merit the eulogium passed upon it by the Commons' Committee of 1834, "viz., that the Metropolitan Police Force, as respects its influence in repressing crime, and the security it has given to persons and property, is one of the most valuable of modern institutions. And the high character of those who now direct it, and the consequent improvement in the moral character and discipline of the men, together with its successful working in practice, has clearly shown that what, under the old police, was considered by the magistrates and the most experienced officers as a necessary evil: viz., flash houses, where the most vicious and desperate characters were allowed openly to assemble, hardening each other in their career of crime and seducing others, in order that they might be more readily secured when an adequate reward was offered, and the association of the police-constables with low and infamous characters, as a means of obtaining information, is not a necessary part of a system which has for its objects, only the prevention and detection of crime; and there is reason to hope that the present system may carry into practice, to the utmost extent, every measure which can augment the difficulty and multiply obstructions in the way of the depredator, as well as every arrangement best calculated to diminish the chances of a profitable conversion of property when dishonestly obtained.†"

I have thus sketched the history, constitution, and operations of that which I believe to be the best police in the world, in its combination of efficiency and discipline, with a moral character which forms a new and an important element in such institutions. To secure that it shall no longer be an instrument of demoralization, though a great

* Commons' Report of 1834, p. 15

† Ibid., pp. 21, 22.

improvement, is not, however, sufficient for the age in which we live. That it shall have a directly *moral* influence on the mass of the population, through a general elevation of character in the corps, is no vain expectation. It is indeed already exercising such an influence, notwithstanding the constant withdrawal of many of the best of its members, who are fitted for more lucrative situations in great part by the discipline of its ranks, in which they are trained to the discharge of an office of considerable severity and some temptation, in which courage, fidelity, patience, and discretion, are perpetually demanded, under the most immediate penalties, and with a result, in the Metropolitan, if not in the City police, which is, on the whole, highly satisfactory.

In my own present avocations, as an Inspector of Schools, I am struck with the importance of this fact, in looking out for some assistance to enable the ragged schools, which make an aggressive movement upon the most abandoned youth of our large towns, more effective to the design which they pursue. The ragged-school movement is simply a recommencement of the mission, which Raikes began in 1781, at Gloucester, by Sunday schools; the ragged Sunday schools (and most of the ragged schools are still such) having led, however, more rapidly than in the former instance, to the establishment also of day schools on the same plan. Unfortunately, in the case of the latter, which have to be conducted, not by a sufficient number of gentle yet enthusiastic voluntary teachers, but by a hired agency, during the hours of attendance that are common to other schools, it is not always borne in mind that if they be not at least equal in moral and intellectual resources to the pay schools of the poorer classes generally, they promise to become, instead of a benefit, the instrument of great injury, by bringing children from the latter into ill-disciplined association with the most depraved. But even where such is not the case, and the best ragged Day and Sunday schools have done their utmost, it will still be "evident to all men," in the words of the Citizens' Memorial to Edward VI., "that beggary and thievery do abound;" since there will still be a vagrant class selfishly using up their children merely as the companions and instruments of their vagabondage; "for there is as great a difference," say the First Ordinances of Bridewell in 1557, in terms which three centuries have not in the least invalidated, "between a poor man and a beggar as is between a true man and a thief. The poor man is he whom age or sickness oppresseth, or by losses or otherwise is beaten to the ground with necessity, which doth labour willingly to gain that which may be gotten so long as power and strength will serve. The beggar is the contrary; one who never yieldeth himself to any good exercise, but continually travaileth in idleness, *training such youth as cometh to his or their custody to the same wickedness of life.*" For these, Bridewell was instituted, and our gaols must still provide: but for "the youth which cometh to their custody," no sufficient provision ever was nor is yet made; for though the ragged-schools make a direct movement at this class, its very vagrancy eludes their influence. They will raise up the widow's children and those of the poor, "beaten down with necessity" to the lowest depths of physical privation and moral depression, but will not reclaim the "outer barbarians" perpetually hanging and preying upon

the lower frontiers of civilized society, to the injury of the honestly poor quite as much as to the annoyance of the luxuriously rich. These will reject no help but that which the honest man often seeks in vain—education, to enable his child to do without help. And it is the children of this class whom society is inevitably doomed to support, while it slowly grinds them down, by its gigantic and undiscriminating agency for the supposed repression of crime.

This obviously is a subject of police, but not of police only; and it becomes a question, which the ragged-school approaches only on one side, whether it would not be more economical, and infinitely more beneficial to society at large, to take all the children from 10 to 15 years of age found repeatedly begging or stealing, give them a brief training in some "house of occupations" on the plans of the Philanthropic Society, and then deport them to some of the colonies; thus simply assuming the duty of parentage where natural parents showed their incompetency to its discharge. If this privation of their children prove not to be punishment enough for them, while it is the salvation of the young people themselves, it will be time enough then to impose some fine upon them, in part defrayal of their children's maintenance, or imprisonment on neglect of its payment, especially if there should be any symptom of the plan encouraging vagabondage for the express purpose of getting rid of the children, which is not very likely, *because at this age they are ceasing to be burthensome, and beginning to be useful for honest as well as for dishonest purposes.* The City of London strengthened their colonization of Ulster by similar means two centuries and a half ago, under the same pressure; and its recurrence finds us just as able to carry out the like purpose with respect to other lands, which are now, in effect, no more distant than the North of Ireland was at that period. I am convinced, in fact, that neither ragged-schools nor courts of justice, *alone* and *severally*, can grapple with the rising flood of this disorder, but that *jointly they may accomplish a great and a saving work*, with sufficient moral security against mischief to the general economy of society, and in a manner consistent with the humanity of the age. It would be easy to enlarge upon this plan, to show the numbers to which it would apply, to disprove the force of its economical objections, and to show the gain to the poor as well as to the rich by "ragged-schools" on such a plan and scale.

A glance at the preceding table of the ages of those who come into the hands of the Metropolitan Police, and are brought before its Magistrates, will show that upwards of *one-fourth* of the whole number summarily disposed of are under twenty years of age, while upwards of *one-third* of those tried and convicted are of this juvenile class, and 231 of them mere children, under fifteen years of age. Under such circumstances, is it not, at all events, a fair subject of investigation whether the possession of a police such as ours, and the improvements which are being effected in our institutions of primary and industrial education, do not dictate some more economical and advantageous mode of dealing with a stream of a few hundreds of young professional vagrants, than that which is at present exhibited by our enormous gaol and convict establishments, all handing them forward in a fatal career of renewed plunder upon society, and final destruction to themselves.

Whatever may be the legal provisions made for a public service in this country, philanthrophy and private enterprise will still find something unprovided for, or ill accomplished; and in the department of police, the Mendicity Society, the Society for the Suppression of Vice, and others, exercise functions which it would be very instructive to investigate, in connexion with the Charities of the Metropolis, but which are beyond the scope of our present inquiry.

Proceedings of the Census Committee of the Statistical Society of London, 1850.

"A SUBJECT which will demand the immediate attention of the Council now to be appointed," states the Annual Report, read to the Society on the 15th of March, "is the Census of the Population to be taken in 1851. In the year previous to the last Census, in 1841, a committee of this Society was appointed to collect and digest the experience of every civilized country in such labours, and its report (contained in the third volume of your Journal, p. 72) is of a character to form even yet a consistent basis for the suggestion of further improvements. The immediate effect of its production was to cause the Government to withdraw the bill actually before the House of Commons for taking the Census in the old methods, by the agency of the overseers, each acting according to his own best and very imperfect discretion, in the production of a gross result, to the accuracy of which he had to swear, without the skill to ensure it. A bill drawn up on the plan contained in your Committee's report was then substituted, and became law. Under this statute, the materials of the last census were collected through the agency of the Registrars of Births, Deaths, and Marriages, in schedules somewhat diminished from those proposed in our Committee's report, and transferred for abstraction to a central office. The general scheme of the labour will not admit of any such fundamental change as was suggested ten years ago; but the items to be collected in the schedule, and yet more, the extent and construction of the abstracts to be deduced from them, and published for public use, are subjects of a solicitude which the experience of the last Census has only tended to augment. Already this matter has been the subject of an interesting paper by the Rev. E. W. Edgell, read before the Society in its monthly meeting of the 20th of November, 1848; and a second paper by the same gentleman, containing an important suggestion for the preservation and consolidation of the existing parish register records, is of kindred interest, and formed the subject of an interesting discussion in the ordinary meeting of the 19th of November last."

Accordingly, a Committee was appointed by a resolution of the Council on the 13th of April, 1850, to the effect that *a Census Committee* be appointed to consist of the following:—

The Right Honourable The Earl of Harrowby	Mr. Farr
Sir J. P. Boileau, Bart.	Mr. Neison
Lieut.-Col. W. H. Sykes	Mr. Danson
Mr. Slaney, M.P.	Mr. Porter
Mr. Tooke	Mr. Fletcher
The Rev. E. W. Edgell	Dr. Guy
	Mr. Oswald.

This Committee, at various meetings held between the 25th of April and the 19th of June inclusive, discussed the various recommendations of individual members for extending the scope of the Census, improving its methods, and enhancing the value of its results by improved abstracts, to be presented to Parliament and the public; and at the latter date finally agreed to the following report to the Council of the recommendations which they should desire to be respectfully submitted to the Home Office, as the department having the preparation of the bill for taking the next census, and that which would necessarily have the superintendence, directly or indirectly, of its operations.

"As respects the general plan, your Committee can suggest nothing better than that which was adopted for the Census of 1841, viz., *a descriptive list of the persons who slept in each house on a given night*, formed chiefly from the verbal inquiries of an 'enumerator,' but partly also from the answers given in the 'householder's schedule' left at each dwelling previous to the night of the census.

"Whilst, however, your Committee approve of this general plan as the best upon the *whole* which can be adopted, they would suggest the following alterations and additions in matters of *detail*:—

"I. That there be in connection with the Census a classification of houses, similar to that made in the Irish Census of 1841, by adding, as to houses inhabited, *the number of rooms in each*, and the same as to houses uninhabited; and that wherever the names of streets or the numbers of houses may be wanting, it would be desirable to have names and numbers affixed for future reference.

"II. Your Committee recommend that the *verbal questions of the enumerators should be universally the same*, and should not be more than six in number; moreover, that they should be worded so as to require no qualification or explanation, as follow:—

"What is your name?

"What is your age?

"Where were you born?

"Are you married, single, widow or widower?

"What is your situation in this house; master, mistress, son, daughter, servant, lodger, or visitor?

"What is your occupation?

"III. Whereas, hitherto one and the same form of householders' schedules has been left with every class of the community, your Committee recommend that there should be one adapted for a lodging-house, another for a farm, another for a large establishment, &c., &c., while they all contain the six universal questions mentioned in the last resolution.

"IV. Whereas, heretofore it has been found that half (or perhaps more than half) of the families with whom householders' schedules have been left, have taken no notice whatever of them; your Committee think that this neglect was in some degree owing to the dry, not to say offensive, manner in which they were worded; they were, in fact, a notice to fill up a subjoined table under a penalty of 50*l.*; your Committee therefore recommend that the wording should partake less of a legal character; that it should rather be *a very simple address*, explaining the object of the inquiry being made by Government.

"V. That one of the 'householder's schedules' be prepared for the masters and mistresses of schools that it state shortly the public uses contemplated in collecting the following information, and require answers to the following questions, viz.:—The average number of scholars in weekly attendance at their several schools in the interval between the 25th of March 1851 and the day of the census, with a statement of the age and sex of those on their books at the latter date.

"It is also desirable that the 'enumerator' should specify in regard to each of these returns, the class to which it belongs, whether that of

"1. Private schools, including all that are supported by the mere payment of the scholars, without endowment, gift, grant, charitable contributions, or other extraneous aid.

"2. Proprietors' schools, including all that are charitably supported by single individuals or firms, without other assistance than the children's pence.

"3. Public schools, including all that are supported by endowments or joint contributions of subscribers.

"VI. That it might prove useful to require from the enumerators a careful return to the central office of ALL the forms issued to be filled up in writing, that they may be subsequently examined and an abstract be made, showing the number intelligibly filled in each place and district.

"VII. That it be recommended that a sufficient remuneration be given to ensure qualified persons.

"VIII. Your Committee, though they fully estimate the importance of agricultural statistics, do not think it advisable to encumber the operations of the next Census with their collection; but they venture to suggest that if some intelligent persons were sent through the country to make inquiries and report upon the best method of collecting agricultural statistics (as commissioners were appointed in 1832, previous to the alteration of the Poor Law), it would tend to prepare the public mind to assist in their collection, and render it more acceptable and more easy of accomplishment when undertaken as an independent object."

The late Under Secretary of State for the Home Department, G. C. Lewis, Esq., M.P., having kindly consented to receive the Committee as a deputation from the Society, its members accordingly waited upon him on the 20th of June, and that gentleman, with great care, investigated the grounds of each recommendation, and promised to give his best consideration to them in framing the act and the instructions upon it. The Committee having availed themselves of his permission to leave with him a copy of these recommendations, withdrew, in the conviction that no effort will be wanting on the part of the executive government, thus represented, to make the next Census a record worthy of the country and of the present advanced state of statistical investigation.

MISCELLANEOUS.

A Return of the Number and Description of Persons Employed on all the Railways in England and Wales, Scotland, and Ireland, respectively, on the 30th day of June, 1849, at that Date open for Traffic; and, similar Return for all Lines and Branches of Railways which have been Authorized, but which were not opened for Traffic on the 30th day of June, 1849; distinguishing the Length of such Railways on which the Works were in Progress, and the Length on which they were not in Progress at that Date.

	Total Number of Persons Employed upon Railways Open for Traffic on the 30th June, 1849.	Total Number of Persons Employed upon Railways not Open for Traffic on the 30th June, 1849.	Total Number and Description of Persons employed on all Railways (Open and Unopen), authorized to be used for the Conveyance of Passengers.
Secretaries and Managers	156	142	298
Treasurers	32	7	39
Engineers	107	269	376
Superintendents	314	419	733
Storekeepers	120	182	302
Accountants and Cashiers	138	144	282
Inspectors and Timekeepers	490	821	1,311
Station Masters	1,300	....	1,300
Draughtsmen	103	153	256
Clerks	4,021	421	4,442
Foremen	709	1,421	2,130
Engine Drivers	1,839	....	1,839
Assistant Engine Drivers, and Firemen	1,871	....	1,871
Guards and Breaksmen	1,631	....	1,631
Switchmen	1,540	....	1,540
Gatekeepers	1,361	....	1,361
Policemen or Watchmen	1,508	481	1,989
Porters and Messengers	8,238	118	8,356
Platelayers	5,508	....	5,508
Artificers	10,809	16,144	26,953
Labourers	14,029	83,052	97,081
Miscellaneous Employment	144	42	186
Total	55,968	103,816	159,784

	Miles.	Chains.	Persons Employed.
Total length of Railway open on 30th June, 1849, and Persons employed thereon	5,447	10¾	55,968
Total length of Railway in course of construction on 30th June, 1849, and Persons employed thereon	1,504	20½	103,816
Total length of Railway neither open nor in course of construction on 30th June, 1849	5,132	38¾	
Total length of Railway authorized to be used for the conveyance of Passengers on 30th June, 1849, and the total number of Persons employed thereon	12,083	70	159,874

Statement of the Monthly Average Price of each Description of Corn, Grain, &c., in England and Wales, from the 5th January, 1849, to the 5th January, 1850; the Average Price of the Year; also, the Average Price at which the Rent-charge in lieu of Tithes is taken for the Year.

Monthly Averages.	Wheat. Per Qr.	Barley. Per Qr.	Oats. Per Qr.	Rye. Per Qr.	Beans. Per Qr.	Peas. Per Qr.
1849.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
January	45 5	29 7	17 2	27 10	31 5	35 0
February	46 1	29 4	17 2	27 6	30 5	33 2
March	44 11	29 0	16 11	25 8	29 7	32 0
April	44 9	28 8	16 10	24 9	28 8	29 11
May	45 4	28 5	17 7	25 3	30 2	30 9
June	44 7	26 7	17 11	26 3	31 2	31 4
July	48 3	25 11	18 10	27 4	32 2	32 2
August	46 6	26 1	19 1	26 5	31 11	30 2
September	43 3	26 10	18 4	26 1	30 7	29 11
October	41 7	28 0	17 3	24 4	29 0	30 8
November	40 8	28 5	16 11	23 2	29 7	30 5
December	39 3	26 9	16 0	23 5	27 11	29 5

The Average Price of the Year 1849.

Wheat. Per Quarter.	Barley. Per Quarter.	Oats. Per Quarter.	Rye. Per Quarter.	Beans. Per Quarter.	Peas. Per Quarter.
s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
44 3	27 9	17 6	25 8	30 2	31 2

Average Price at which the Rent-charge in lieu of Tithes is taken for the Year, as published in the "London Gazette."

Wheat. Per Bushel.	Barley. Per Bushel.	Oats. Per Bushel.
s. d.	*s. d.*	*s. d.*
6 $7\frac{1}{2}$	4 $1\frac{1}{4}$	2 $8\frac{1}{2}$

An Account of the Total Number of Quarters of Malt made in the United Kingdom between the 10th day of October, 1848, and the 10th day of October, 1849; distinguishing the Quantity made in each Country, and the Quantity used by Brewers and by Victuallers, and by Retail Brewers.

	Year ended 10th October, 1849.			
	Quarters of Malt made.	Quarters of Malt used		
		By Brewers and Victuallers.	By Retail Brewers.	Total.
England	4,038,915	3,081,094	378,494	3,459,588
Scotland	517,482	108,948	....	108,948
Ireland	193,122	150,609	....	150,609
The United Kingdom	4,749,879	3,340,651	378,494	3,719,145

Return of the Net Produce of the Duty paid on Game Certificates (of each Class,) and upon Licenses for the Sale of Game, for the Years ending the 5th day of April, 1845, 1846, 1847, 1848, *and* 1849.

	1844, ending 5th April, 1845.	1845, ending 5th April, 1846.	1846, ending 5th April, 1847.	1847, ending 5th April, 1848.	1848, ending 5th April, 1849.
	£	£	£	£	£
Charged on Persons in their own right	129,751	129,063	131,822	136,499	119,288
Charges confirmed in Double Duty	4,462	2,150	3,807	3,791	2,845
Gamekeepers (not being Assessed Servants)	1,147	908	848	848	783
Gamekeepers (being Assessed Servants)	2,186	2,103	2,101	2,069	1,903
Licenses for the Sale of Game	2,046	2,103	2,035	2,120	2,063
England and Wales	139,592	136,327	140,613	145,327	126,882

An Account of the Total Number of Acres of Land in Great Britain under the Cultivation of Hops in 1849, *distinguishing the Number of Acres in each Collection.*

Collections.	Number of Acres.	Collections.	Number of Acres.
Barnstaple	21¾	Brought forward	16,664¾
Bristol	4	Oxford	1
Cambridge	6	Reading	7½
Canterbury	8,272	Rochester	14,575½
Cornwall	2	Salisbury	5½
Derby	16¾	Salop	3
Essex	140	Stourbridge	299
Gloucester	19	Suffolk	132¾
Grantham	16¼	Surrey	20
Hants	1,607½	Sussex	10,005½
Hereford	5,264	Wales, Middle	22½
Isle of Wight	1,051½	Worcester	1,061
Lincoln	244		
		Total	42,798
Carried forward	16,664¾		

An Account of the Total Number of Pounds Weight of Hops charged with Duty in each of the several Collections of the United Kingdom in the Year 1849.

Collections.	Pounds Weight of Hops charged with Duty.	Collections.	Pounds Weight of Hops charged with Duty.
	Lbs.		Lbs.
Barnstaple	1,222	Brought forward	5,454,263
Canterbury	3,107,286	Lincoln	28,992
Cornwall	311	Rochester	6,795,116
Derby	1,150	Salisbury	47
Essex	4,059	Stourbridge	74,675
Gloucester	572	Suffolk	40,161
Grantham	485	Sussex	4,028,651
Hants	755,725	Wales, Middle	133
Hereford	1,296,581	Worcester	228,877
Isle of Wight	286,872		
		Total	16,650,915
Carried forward	5,454,263		

An Account of the Duty on Hops of the Growth of the Year 1849; *distinguishing the Districts, and the Old from the New Duty.*

Districts.	Duty.			Districts.	Duty.		
	£	s.	d.		£	s.	d.
Barnstaple	10	13	9¾	Brought forward	108,439	6	10¼
Canterbury	27,188	4	11¼	Sussex	35,250	2	8½
Cornwall	2	14	4¾	Wales, Middle	1	3	3¼
Derby	10	1	2¼	Worcester	2,002	11	11¾
Essex	35	10	2¾				
Gloucester	5	0	1	Total	145,693	4	9¾
Grantham	4	4	10½				
Hants	6,612	10	0¾				
Hereford	11,344	13	10	Old Duty, at $1\frac{12}{20}d.$ per lb.	79,785	12	8¼
Isle of Wight	2,510	1	9				
Lincoln	253	13	4¾	New duty, at $\frac{3}{4}\frac{8}{20}d.$ per lb.	58,971	19	9¾
Rochester	59,546	14	5½				
Salisbury	0	8	2	Additional Duty of 5 per cent. per Act 3 Vict. c. 17	6,935	12	3¾
Stourbridge	653	7	7½				
Suffolk	351	8	0½				
Carried forward	108,439	6	10¼	Total	145,693	4	9¾

Return of the Number of Persons admitted to view the General Collections of the British Museum in each Month of each Year from 1844 *to* 1849.

	1844.	1845.	1846.	1847.	1848.	1849.
	No.	No.	No.	No.	No.	No.
January	37,179	23,353	40,737	39,167	57,781	57,791
February	19,705	22,638	36,875	26,113	77,934	49,551
March	26,780	46,452	51,141	37,288	81,424	71,726
April	58,689	43,768	90,625	89,618	78,048	104,752
May	83,876	113,956	51,660	100,468	60,547	95,594
June	59,972	58,970	99,273	96,564	89,546	107,131
July	85,320	82,462	87,210	82,025	111,220	97,055
August	66,264	71,393	101,506	80,136	88,585	109,709
September	43,547	53,882	45,119	80,636	66,227	58,670
October	27,374	55,829	43,505	68,834	62,008	76,046
November	20,212	34,181	47,732	39,099	50,256	62,857
December	46,840	78,730	55,218	81,017	75,409	88,191
Total	575,758	685,614	750,601	820,965	897,985	979,073

Number of Visits made to the Reading Rooms, for the purpose of Study or Research, about 1,950 in 1810; 4,300 in 1815; 8,820 in 1820; 22,800 in 1825; 31,200 in 1830; 63,446 in 1835; 67,542 in 1840; 169,303 in 1841; 71,706 in 1842; 70,931 in 1843; 67,511 in 1844; 64,427 in 1845; 66,784 in 1846; 67,525 in 1847; 65,867 in 1848; and 70,371 in 1849.

Number of Visits made by Artists and Students to the Galleries of Sculpture, for the purpose of Study, about 4,938 in 1831; 6,081 in 1835; 6,354 in 1840; 5,655 in 1841; 5,627 in 1842; 4,907 in 1843; 5,436 in 1844; 4,256 in 1845; 4,124 in 1846; 3,508 in 1847; 3,694 in 1848; 6,804 in 1849.

Number of Visits made to the Print Room, about 4,400 in 1832; 1,065 in 1835; 6,717 in 1840; 7,744 in 1841; 8,781 in 1842; 8,162 in 1843; 8,998 in 1844; 5,904 in 1845; 4,390 in 1846; 4,572 in 1847; 5,813 in 1848; 5,970 in 1849.

Statement of the Quantities of each Description of Corn, Grain, Meal, and Flour Imported into the United Kingdom in the Year 1849, *distinguishing the Countries from which Imported.*

Countries from which Imported.	Wheat and Wheat Flour	Barley and Barley Meal.	Oats and Oatmeal.	Rye and Rye Meal.	Peas and Pea Meal.	Beans and Bean Meal.	Indian Corn and Meal.	Buck Wheat and Buck Wheat Meal.	Beer or Bigg.	Aggregate of all Sorts.
	Quarters.	Quarters.	Quarters.	Quarters.	Quarters.	Quarters.	Quarters.	Quarters.	Quarters.	Quarters.
Russia, Northern Ports	48,178	47,491	241,534	3,046	2,804	69	...	2	...	343,124
„ Ports within the Black Sea	551,378	300	...	...	415	...	25,540	...	...	577,633
Sweden	6,493	11,579	195,805	329	3,577	1,684	...	...	...	219,467
Norway	1	...	2,441	...	...	...	...	...	...	2,442
Denmark	243,213	671,665	253,213	78,292	62,196	9,879	1,300	13	800	1,320,571
Prussia	618,690	344,940	175,679	112,231	95,352	17,802	...	...	...	1,364,694
Mecklenburg Schwerin	139,005	22,170	442	969	15,718	...	...	...	...	178,304
Hanover	21,231	10,517	123,378	2,795	556	29,788	1,343	...	...	189,608
Oldenburg and Kniphausen	7,833	3,179	29,499	7	20	10,198	...	...	...	50,736
Hanseatic Towns	330,914	149,231	51,522	14,581	28,455	25,511	...	92	...	600,306
Holland	308,482	13,395	199,713	2,057	8,078	58,958	...	31	43	590,757
Belgium	366,099	522	7,621	6,256	7	14,065	67	242	...	394,879
Channel Islands (Foreign Produce)	2,631	225	283	...	17	5	...	...	...	3,161
France	742,023	86,644	1,375	23,158	120	34,762	136,764	163	...	1,025,009
Portugal, Proper	2,870	...	...	...	...	...	61,687	...	...	64,557
„ Azores and Madeira	2,629	...	...	1	...	13	17,215	...	...	19,858
Spain and the Balearic Islands	498	...	...	...	2	1	26,504	...	...	27,005
„ Canary Islands	1	1	...	...	...	...	1	...	...	3
Italy and the Italian Islands, viz.:—										
Sardinian Territories	26,495	...	...	...	...	1,288	13,402	...	...	41,185
Tuscany	70,682	...	...	...	...	25	11,717	...	...	82,424
Papal Territories	4,354	...	...	...	...	...	8,927	...	...	13,281
Naples and Sicily	5,345	...	...	...	...	62	18	...	...	5,425
Austrian Territories	174,654	...	...	...	...	629	91,656	...	...	266,939
Malta and Gozo	9,049	509	...	...	...	3,031	18,107	...	...	30,696
Ionian Islands	...	...	...	...	...	...	5,420	...	...	5,420
Greece	61,136	5,532	...	...	...	2,482	57,684	...	...	126,834
Wallachia and Moldavia	47,540	1,605	...	2,047	...	...	277,150	...	...	328,342
Egypt	129,954	2,900	...	...	2,558	247,594	13,151	...	...	396,157
Syria and Palestine	12,920	2,817	...	...	...	...	8,860	...	...	24,597
Turkish Dominions not particularly enumerated	105,128	13,935	...	1,042	7	726	282,551	...	...	403,389
Morocco	...	...	...	...	1	...	760	...	...	761
Algeria	...	701	...	...	...	...	...	...	...	701
Western Coast of Africa	...	...	...	...	...	...	902	...	...	902
Cape of Good Hope	1	...	...	...	...	...	...	...	...	1
British Territories in India	2,028	...	1	...	2	...	...	...	...	2,031
China	4	...	...	...	...	...	...	...	...	4
British Settlements in Australia	15,699	...	...	...	...	...	...	...	...	15,699
British North American Colonies	142,295	...	24,068	21	14,818	1	1,700	...	...	182,903
British West Indies and British Guiana	26	...	...	...	...	...	...	1	...	27
Foreign West Indies	2	...	...	...	...	...	...	...	...	2
United States of America	617,131	...	1,330	11	1,822	78	1,213,545	83	...	1,834,000
Brazil	1,021	...	...	...	...	...	1,253	...	...	2,274
Chili	17,646	...	...	...	...	...	...	...	...	17,646
Peru	1	...	...	...	...	...	...	...	...	1
Total	4,835,280	1,389,858	1,307,904	246,843	236,525	458,651	2,277,224	627	843	10,753,755

EMIGRATION TO CANADA.

Return of the Number of Emigrants Embarked, with the Number of Births and Deaths during the Voyage and in Quarantine, the Total Number Landed in the Colony, distinguishing Males from Females and Adults from Children, with the Number of Souls from each Country; also the Number of Vessels, Tonnage, and Seamen employed, and the Average Length of Passage during the Season of 1849.

Whence.	Number of Vessels.	Average Days on Passage.	Tonnage.	Number of Seamen.	Number Embarked.						Births.		Total Souls on Board.	Deaths on the Passage.					
					Cabin Passengers.	Adults.		Children 1 to 14 Years.		Infants.	Total Steerage.				Adults.		Children 1 to 14 Years.		Infants.	Total.
						Males.	Females.	Males.	Females.			Males.	Females.		Males.	Females.	Males.	Females.		
England	134	45	53,404	2,377	319	3,319	2,236	1,479	1,285	455	8,774	9	7	9,109	16	19	26	31	23	115
Ireland	150	45¼	50,650	2,078	517	8,205	7,163	3,590	3,430	969	23,357	30	21	23,925	191	176	131	140	92	730
Scotland	59	41¼	26,832	1,073	147	1,790	1,442	795	709	183	4,919	4	5	5,075	5	6	5	2	2	20
Germany	4	49	1,013	39	...	176	131	51	62	19	439	...	...	439	...	...	...	...	3	3
Lower Ports, &c.	48	18	...	...	4	332	265	163	193	11	964	...	...	968	...	...	...	...	...	...
Total	395	...	131,899	5,567	987	13,822	11,237	6,078	5,679	1,637	38,453	43	33	39,516	212	201	162	173	120	868

Whence.	Deaths in Quarantine.						Total Deaths.	Total Landed in the Colony.									Grand Total Landed in the Colony.
	Adults.		Children 1 to 14 Years.		Infants.	Total.		Adults.		Children, 1 to 14 Years.		Total.		Infants.	Total Steerage.	Cabin Passengers.	
	Males.	Females.	Males.	Females.				Males.	Females.	Males.	Females.	Males.	Females.				
England	2	3	3	3	3	14	129	3,301	2,214	1,450	1,251	4,751	3,465	445	8,661	319	8,980
Ireland	37	15	9	5	3	69	799	7,977	6,972	3,450	3,285	11,427	10,257	925	22,609	517	23,126
Scotland	31	27	9	4	...	71	91	1,754	1,409	781	703	2,535	2,112	190	4,837	147	4,984
Germany	...	...	...	...	...	...	3	176	131	51	62	227	193	16	436	...	436
Lower Ports, &c.	...	...	...	...	...	...	...	332	265	163	193	495	458	11	964	4	968
Total	70	45	21	12	6	154	1,022	13,540	10,991	5,895	5,494	19,435	16,485	1,587	37,507	987	38,494

Return of the Shipping employed in the Trade of the United Kingdom, exhibiting the Number and Tonnage of Vessels that entered Inwards and cleared Outwards (including their repeated Voyages), separating British from Foreign Vessels, also Steam from Sailing Vessels, and distinguishing the Trade with each Country, in the Year 1849.

		Inwards.				Outwards.			
		British.		Foreign.		British.		Foreign.	
		Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.
Russia	Steam	25	10,790	...	...	22	9,662	...	...
	Sailing	2,325	479,893	313	83,591	1,692	340,308	305	60,188
Sweden	Sailing	150	18,542	553	92,877	136	17,293	360	47,978
Norway	Sailing	10	691	858	126,560	35	5,526	975	142,297
Denmark	Steam	43	15,052	8	2,024	10	2,834	...	...
	Sailing	450	48,216	1,937	144,043	985	133,368	3,276	306,324
Prussia	Steam	...	...	1	461	...	...	1	460
	Sailing	1,401	196,499	784	139,384	1,105	153,761	689	121,682
Germany	Steam	275	99,363	74	24,198	275	105,090	83	26,490
	Sailing	1,144	185,721	1,317	109,934	1,246	216,088	1,407	101,944
Holland	Steam	649	150,250	75	14,897	451	105,757	88	17,276
	Sailing	1,102	142,659	1,149	103,822	1,061	140,324	956	64,428
Belgium	Steam	468	80,420	278	50,135	468	83,049	276	53,779
	Sailing	739	55,601	338	48,908	267	17,428	242	22,254
France	Steam	1,680	230,412	354	44,804	1,672	234,078	357	45,025
	Sailing	2,632	272,842	3,680	293,915	2,215	258,732	3,595	278,354
Portugal, Azores, &c.	Steam	9	1,848	...	...	8	2,702	...	...
	Sailing	722	70,849	120	11,028	771	82,155	234	36,379
Spain, Canaries, &c.	Steam	1	196	1	303	2	473	2	483
	Sailing	490	48,477	97	12,805	733	109,577	280	46,212
Gibraltar	Steam	36	10,798	...	...	39	12,088	...	...
	Sailing	16	1,477	2	182	164	20,391	27	5,152
Italian States	Steam	9	2,645	...	...	12	3,887	...	...
	Sailing	563	89,595	241	66,935	754	125,588	392	99,135
Malta	Steam	1	329	...	...	...	...	...	...
	Sailing	54	9,895	...	...	124	25,748	131	28,054
Ionian Islands	Sailing	79	10,233	1	332	44	7,017	24	7,187
Greece	Sailing	106	14,406	71	20,408	71	10,250	38	11,167
Turkish Dominions	Steam	28	12,026	...	...	31	12,994	...	...
	Sailing	421	81,325	12	3,172	289	57,037	114	30,542
Wallachia & Moldavia	Sailing	124	20,787	118	30,309	57	8,480	5	1,148
Syria	Sailing	25	3,668	...	...	44	6,686	4	892
Africa	Steam	12	12,657	...	...	13	12,911	...	...
	Sailing	624	169,825	5	1,307	524	139,943	79	18,584
Asia	Steam	...	...	...	...	1	927	...	...
	Sailing	747	374,586	1	488	928	462,887	31	13,740
America, viz.:—									
British Northern Colonies	Steam	1	370	...	...	3	828	...	...
	Sailing	2,251	877,218	2	746	1,660	614,922	5	1,088
British West Indies	Steam	4	3,982	...	...	18	19,915	...	...
	Sailing	746	201,266	...	...	810	221,012	2	348
Foreign West Indies	Steam	2	1,438	...	...	3	1,900	...	...
	Sailing	314	81,202	100	24,677	313	79,618	154	37,425
United States	Steam	45	40,852	13	14,490	47	42,539	12	13,360
	Sailing	666	379,315	843	555,375	1,022	514,774	996	626,922
Mexico	Steam	11	11,164	...	...	3	3,204	...	...
	Sailing	20	3,982	2	676	58	11,544	1	680
Central & Southern States	Steam	8	8,382	...	...	1	509	...	...
	Sailing	677	197,530	38	8,795	735	222,111	123	31,149
Russian Settlements on North West Coast	Sailing	...	...	...	...	...	...	1	418
Falkland Islands	Sailing	...	...	...	...	4	1,107	...	...
Auckland Islands	Sailing	...	...	...	...	2	662	...	...
Whale Fisheries	Sailing	46	11,346	...	...	58	14,777	...	...
Channel Islands	Steam	249	41,789	...	...	230	38,696	...	...
	Sailing	1,466	101,801	40	4,109	1,112	72,270	10	576
Total		23,646	4,884,210	13,426	2,035,690	22,328	4,785,428	15,275	2,299,060

Return of the Duties paid upon Bricks in England, distinguishing the Amounts paid in the Country and in London, during the Year 1849.

	£	s.	d.
Amount paid in the Country	422,812	18	8½
Ditto in London	26,014	0	7
Total	448,826	19	3½

Return of the Mortality from Disease among the European Troops in Her Majesty's Service in the East and West Indies respectively, showing the Number of Deaths per Cent. on the whole Force employed in each Year, from 1840 *to* 1848, *both inclusive.*

Years.	East Indies.			West Indies.		
	Strength.	Deaths from Disease.	Ratio per cent. on Strength.	Strength.	Deaths from Disease.	Ratio per cent. on Strength.
1840.....	19,551	1,441	7·37	5,783	389	6·72
1841.....	21,635	1,477	6·82	5,370	530	9·86
1842.....	26,342	2,588	9·82	5,301	238	4·48
1843	28,047	2,154	7·67	5,246	286	5·47
1844.....	26,345	1,480	5·61	4,266	217	5·08
1845.....	26,392	2,205	8·35	4,513	216	4·78
1846.....	25,195	1,899	7·53	4,733	144	3·04
1847.....	25,356	1,165	4·59	3,550	106	2·98
1848.....	23,444	930	3·96	3,981	230	5·77

N.B.—Deaths which occurred in hospitals, the consequence of wounds, are not included in the above Return: of such, during the nine years (from 1840 to 1848 inclusive,) there were 370 in Bengal, 39 in Bombay, 2 in Madras, and 4 in the West Indies.

Abstract showing the Number of Slave Vessels Captured and the Number Condemned; the Number of Slaves Captured, with the Number of Deaths between the Date of Capture and Adjudication, and the Annual per Centage of Mortality, in each Year from 1840 *to* 1848, *both inclusive.*

Year.	Number of Vessels Captured.	Number of Vessels Condemned.	Number of Slaves Captured.	Number of Slaves Died between Capture and Adjudication.	Annual per Centage of Mortality between Capture and Adjudication.
1840	79	76	3,192	292	9·14786
1841	78	66	4,519	311	6·88205
1842	58	53	3,177	344	10·82782
1843	44	38	3,612	590	16·33455
1844	52	46	3,472	480	13·82488
1845	95	84	4,443	473	10·64595
1846	47	45	2,200	199	9·04545
1847	81	80	6,706	694	10·34864
1848	91	90	6,712	558	8·31346
Totals....	625	578	38,033	3,941	95·37066

Return of the Mortality per Cent. amongst the Officers and Crews of Her Majesty's Ships employed on the Coast of Africa, in each Year from 1840 *to* 1848, *both inclusive.*

Years.	Number of Deaths.	Mortality per Cent.
1840.....	35	4·1
1841.....	85	7·9
1842.....	72	5·4
1843.....	27	2·1
1844.....	49	2·8
1845.....	128	5·
1846.....	98	3·3
1847.....	81	2·5
1848.....	63	2·2

Amount of Customs' Duty received on the Importation of Foreign Books, in each Year ending 5th January from 1841 *to* 1850, *showing the Rates of Duty, and any Alterations that may have been made in the Duty.*

Years ended 5th January	Amount of Duty received in the United Kingdom on Foreign Books.	Years ended 5th January	Amount of Duty received in the United Kingdom on Foreign Books.
	£		£
1841.....	8,493	1846.....	10,492
1842.....	8,451	1847.....	9,201
1843.....	7,878	1848.....	8,843
1844.....	9,011	1849.....	7,762
1845.....	9,481	1850.....	7,751

Statement of the Rates of Duty on Foreign Books, bound or unbound, during the above Years.

	£	s.	d.	
Being of Editions printed prior to the year 1801	1	1	0	per cwt.
Being of Editions printed in or since the year 1801	5	5	0	,,
In the Foreign living Languages, being of Editions printed in or since the year 1801	2	12	6	,,
Printed in the English Language in the British Possessions	2	12	6	,,

Books published in the Dominions of Prussia, Saxony, the Duchy of Brunswick, the States forming the Thuringian Union, Hanover and Oldenburg, have been admitted at the following Duties by Orders in Council, under the authority of Act 9 & 10 Vict. c. 58 (18th August, 1846):—

	£	s.	d.	
Works originally produced in the United Kingdom and re-published in the Country of Export	2	10	0	per cwt.
Works not originally produced in the United Kingdom.....	0	15	0	,,

stract of the Number of Persons in the United Kingdom Licensed as Brewers, Victuallers, to sell Beer to be drunk on the Premises, and to sell Beer not to be drunk on the Premises; stating the Number of each Class who brew their own Beer, and the Quantity of Malt consumed by them, particularising each Class, from the 10th day of October, 1848, to the 10th day of October, 1849.

LLECTIONS.	Number of				Number who brew their own Beer.			Bushels of Malt consumed by each Class.			
	Brewers.	Victuallers.	Persons Licensed to sell Beer.		Victuallers.	Persons Licensed to sell Beer.		Brewers.	Victuallers.	Persons Licensed to sell Beer.	
			To be drunk on the Premises	Not to be drunk on the Premises		To be drunk on the Premises	Not to be drunk on the Premises			To be drunk on the Premises	Not to be drunk on the Premises
land	2,257	59,335	34,800	3,270	25,985	12,201	972	17,688,334	6,960,423	2,697,757	330,200
dand	154	15,081	...	...	181	...	...	764,843	106,743	...	...
nd	96	14,080	...	...	...	...	...	1,204,875	...	...	...
ed Kingdom ...	2,507	88,496	34,800	3,270	26,166	12,201	972	19,658,052	7,067,166	2,697,757	330,200

e Number of Barrels of Beer and Ale upon which drawback was paid in the United Kingdom, between the 10th of October, 1848, and the 10th October, 1849, was 135,144 Barrels.

PROCEEDINGS OF THE STATISTICAL SOCIETY OF LONDON.

Seventh Ordinary Meeting, 1849-50. *Monday*, 20*th May*, 1850.

Lieut.-Colonel W. H. Sykes, F.R.S., Vice-President, in the Chair.

The following Gentlemen were elected Fellows:—

John Henry Murchison, Esq. | Archibald Hastie, Esq., M.P.
J. H. Sutton Southeron, Esq., M.P.

The adjourned discussion on Mr. Newmarch's Paper on Bills of Exchange was resumed.

Eighth Ordinary Meeting, 1849-50. *Monday*, 17*th June*, 1850.

Mr. Tooke, Vice-President, in the Chair.

The following Gentlemen were elected Fellows:—

George Forbes, Esq. | Robert Warner, Esq.

The following Gentlemen were elected Foreign Honorary Members:—

M. Michel Chevalier | M. D. L. Rodet
M. Joseph Garnier | M. Leon Fauchet

The following Paper was read:—

The Progress of the Foreign Commerce of France, from 1830 to 1848. By J. T. Danson, Esq.

THE MARRIAGES, BIRTHS, AND DEATHS,

REGISTERED IN THE DIVISIONS, COUNTIES, AND DISTRICTS OF ENGLAND,

AS PUBLISHED BY AUTHORITY OF THE REGISTRAR-GENERAL.

THE following Return comprises the Births and Deaths which were registered in all the districts of England by 2,189 Registrars, in the winter quarter ending March 31st, 1850; and the Marriages in above 12,000 chapels and churches, 2,869 registered places of worship unconnected with the Established Church, and 623 Superintendent Registrars' Offices, in the quarter ending December 31st, 1849.

The Return of marriages is incomplete; but the numbers wanting are inconsiderable, and have been supplied from the previous years. Returns of the births and deaths have been received from every Registrar.

While the returns of the exports, imports, and revenue furnish good indications of the production, consumption, and commerce of great classes in the country,—the marriages, births, and deaths supply a surer test of the condition of the whole population. It is gratifying to find that the general results of both classes of returns are favourable. The marriages, which in 1847 were so much depressed, and increased almost imperceptibly in 1848, rose to 141,599 in the year 1849; and in the autumn quarter were 43,362, which is a higher number than has ever before been celebrated, excepting in the autumn quarter of 1845. The deaths have also declined; they were 98,607. The country, which, after the failure of the potato crop in 1846, was covered with funerals—in the train of a multitude of diseases and of two great epidemics, the fatal influenza of 1847-8, and the more deadly cholera of 1849—is now in health again. The deaths in the first quarter of 1850 were less by 21,065 and 21,414 than the deaths in the corresponding quarters of 1847 and 1848.

The improvement in the state of the public health may be ascribed to various causes. January and March were cold, as they usually are in England; February warm; the three months were dry and bracing. The great epidemics subsided in 1849. Their force was perhaps expended. It is usual to say that they carry away the weak; but to this it should be added, that their attacks leave much weakness behind them. Then although, as hitherto has always been the case, much more has been said than done in the way of sanatory improvement, undoubtedly many houses streets, and cities have been purified. Some flagrant nuisances have been suppressed, and have not had time to reaccumulate.

Food too has been abundant. The high prices of provisions in 1847, when wheat was on an average 70*s.* a quarter in England, and potatoes still dearer, induced agriculturists everywhere to extend the breadth of land under culture in 1848, which, as the crops were scanty, did not then produce an amount of subsistence sufficient for the population. The agricultural returns, which by the command of the Lord-Lieutenant have been so ably digested by Captain Larcom, show how much this culture was extended in Ireland; 872,038 acres of land were under wheat and potatoes in 1847, and 1,308,645 acres were under the same cultivation in 1848; while the produce, which was 2,385,308 tons in 1847, was 3,269,689 tons in 1848, without supplying the ordinary wants of the people*.

No attempt has been made to procure returns of the breadth of land or the produce in England; and the Irish returns of 1849 have not yet been made up; but there can be little doubt that all over Europe the breadth of land under potatoes,

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* The counties of Tipperary and Waterford made no returns in 1848; their returns for 1847 have been deducted from the gross returns of Ireland, 1847.—See returns of Agricultural Produce in Ireland, 1847-1848, presented to Parliament by Command of Her Majesty.

wheat, and the other cereals, in that year, was sufficient to yield, on average crops, enough food to supply the markets. The crops were generally above the average; the potato did not fail; and the supply of wheat was consequently superabundant, so that prices fell lower than they have been since 1835. The general advantages of abundance is unequivocal; but whether the part of the population which is engaged in producing food for sale, procure as much money for the good crops of 1849 as they procured the scanty bad food with which the markets of many counties were supplied in 1848, or for average crops, is uncertain, and must always remain uncertain, until a comprehensive system of agricultural statistics is organized. No one can imagine, however, for a moment because wheat was at 51*s.* a quarter in 1848, and 44*s.* a quarter in 1849, that the value of the produce was in that ratio; for if 10 million quarters of wheat at 51*s.* are worth 25½ million pounds, evidently 11,590,000 quarters at 44*s.* will be worth the same sum. This relation must hold if prices are in the inverse ratio of the quantities in the market; and if the price varies more than the quantity, it is nevertheless clear that the value of the produce will vary within a narrower limit than the price. The returns from the agricultural districts exhibit an improved state in the health of the great body of the inhabitants; and there is nothing in the facts, which can justify us in refusing to ascribe apart of the improvement to the comparatively abundant supply of the necessaries of life.

The annual rate of mortality in the first quarters of the 11 years 1840-50 was 2·754 per cent., in 117 districts, comprising the chief towns; and 2·222 per cent. in the districts of the small towns and country parishes; in 1850, the mortality in the first class of districts fell to 2·401 per cent., and in the second class of districts, to 2·067 per cent. In the most favourable winter quarter which has been experienced since 1846, the mortality of the inhabitants of towns exceeds the mortality of the rest of the country by 16 per cent.

The 144,602 births exceeded the 98,607 deaths in the quarter by 45,995; and from a return with which the Registrar General has been favoured by the Emigration Commissioners, it appears that 46,423 emigrants left the ports of the United Kingdom, at which there are Government Emigration Offices. Of these, 40,927 left English ports; but it is probable that great numbers were of Irish extraction.

Marriages Registered in the Quarters ending December 31*st*, 1845-49; *Births and Deaths Registered in the Quarters ending March* 31*st*, 1846-50, *in the Divisions, Counties, and Districts of England.*

Population.		Marriages.		Births.		Deaths.	
		Registered in the Quarter ending the last Day of					
		Dec.,		Mar.,		Mar.,	
		1845....	43,889	1846....	145,108	1846....	89,484
1831.....	13,896,797	1846....	42,066	1847....	146,453	1847....	119,672
		1847....	40,729	1848....	139,736	1848....	120,021
1841.....	15,914,148	1848....	42,113	1849....	153,705	1849....	106,066
Military	29,846	1849....	43,632	1850....	144,602	1850....	98,607

MORTALITY OF THE METROPOLIS.

A Table of the Mortality in the Metropolis, showing the Number of Deaths from all Causes, in the Quarters ending March of the Four Years, 1847–48–49–50.

CAUSES OF DEATH.	Quarters ending March.*			
	1847.	1848.	1849.	1850.
ALL CAUSES	15,289	16,455	15,438	13,219
SPECIFIED CAUSES	15,245	16,366	15,331	13,136
I. Zymotic Diseases	1,964	4,203	4,120	2,126
SPORADIC DISEASES.				
II. Dropsy, Cancer, and other Diseases of uncertain or variable Seat	642	576	643	606
III. Tubercular Diseases	2,508	2,585	2,282	2,226
IV. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	1,856	1,786	1,687	1,638
V. Diseases of the Heart and Blood Vessels	666	476	523	544
VI. Diseases of the Lungs and of the other Organs of Respiration	4,056	3,357	2,986	2,802
VII. Diseases of the Stomach, Liver, and other Organs of Digestion	815	856	792	763
VIII. Diseases of the Kidneys, &c.	169	181	164	165
IX. Childbirth, Diseases of the Uterus, &c.	205	129	123	122
X. Rheumatism, Diseases of the Bones, Joints, &c.	141	83	121	101
XI. Diseases of the Skin, Cellular Tissue, &c	26	22	15	24
XII. Malformations	49	57	48	43
XIII. Premature Birth & Debility	337	301	301	320
XIV. Atrophy	239	339	282	277
XV. Age	971	744	662	690
XVI. Sudden†	173	184	167	234
XVII. Violence, Privation, Cold, and Intemperance	428	487	415	455
I. Small Pox	82	388	228	95
Measles	99	465	173	303
Scarlatina	196	615	776	199
Hooping Cough	544	374	905	442
Croup	67	90	77	79
Thrush	38	40	38	25
Diarrhœa	178	244	284	207
Dysentery	34	44	42	43
Cholera	3	9	516	8
Influenza	63	578	53	38
Purpura and Scurvy	16	23	16	8
Ague	4	7	6	3
Remittent Fever	2	19	19	20
Infantile Fever‡	19	18	4	11
Typhus	442	922	699	404
Metria, or Puerperal Fever, see Childbirth	..	109	112	60
Rheumatic Fever, see Rheumatism	..	19	8	21
Erysipelas	116	196	137	119
Syphilis	34	34	22	32
Noma or Canker, see Mortification	3	8	6	8
Hydrophobia	..	1	..	1
II. Hæmorrhage	58	35	53	55
Dropsy	289	198	248	214
Abscess	18	31	27	30
Ulcer	19	16	12	12
Fistula	1	6	4	3
Mortification	57	58	60	59
Cancer	180	222	231	213
Gout	20	10	8	20
III. Scrofula	53	89	74	72
Tabes Mesenterica	192	233	198	158
Phthisis or Consumption	1,823	1,873	1,630	1,626
Hydrocephalus	440	390	380	370
IV. Cephalitis	156	138	145	135
Apoplexy	368	364	314	376
Paralysis	342	326	326	366
Delirium Tremens	47	39	41	21
Chorea	2	2	1	7
Epilepsy	113	91	94	75
Tetanus	2	1	5	4
Insanity	28	31	22	19
Convulsions	619	634	561	482
Disease of Brain, &c.	179	160	178	153
V. Pericarditis	29	36	31	32
Aneurism	14	15	20	24
Disease of Heart	623	425	472	488
VI. Laryngitis	62	46	69	54
Bronchitis	1,661	1,342	1,271	1,284
Pleurisy	67	62	49	41
Pneumonia	1,390	1,416	1,202	1,011
Asthma	625	317	270	300
Disease of Lungs, &c	251	174	125	112
VII. Teething	143	134	150	139
Quinsey	17	35	26	17
Gastritis	23	31	20	28
Enteritis	102	123	101	88
Peritonitis	61	74	62	57
Ascites	26	34	19	30
Ulceration (of Intestines, &c.)	34	38	26	23
Hernia	58	33	39	37
Ileus	31	35	23	30
Intussusception	9	8	16	13
Stricture of the Intestine Canal	7	6	8	14
Dis. of Stomach, &c.	79	95	79	76
Disease of Pancreas	..	1	..	..
Hepatitis	44	52	49	44
Jaundice	31	31	44	30
Disease of Liver	149	123	129	134
Disease of Spleen	1	3	1	3
VIII. Nephritis	5	7	7	6
Nephria (or Bright's Disease)	..	41	25	34
Ischuria	3	1	2	2
Diabetes	9	15	10	10
Stone	12	8	10	12
Cystitis	8	11	8	7
Stricture of Urethra	16	13	9	13
Dis. of Kidneys, &c.	116	85	93	81
IX. Paramenia	2	4	5	4
Ovarian Dropsy	15	16	16	16
Childbirth, see Metria	146	67	64	66
Dis. of Uterus, &c.	42	42	38	36
X. Arthritis	1	1	1	3
Rheumatism	73	40	66	60
Disease of Joints, &c.	67	42	54	38
XI. Carbuncle	4	4	1	2
Phlegmon	9	5	3	7
Disease of Skin, &c.	13	13	11	15
XVII. Intemperance	12	17	21	18
Privation	22	18	13	8
Want of Breast Milk, see Privation & Atrophy	..	45	28	40
Neglect	..	2	..	2
Cold, see Privation	..	4	4	1
Poison	394	29	15	20
Burns and Scalds		77	76	106
Hanging, &c.		56	36	45
Drowning		53	66	48
Fractures and Contusions		139	114	139
Wounds		33	26	19
Other Violence		14	16	9
Causes not specified	44	89	107	83

* The mortality of the district of Lewisham and Hampstead, was included in the Metropolitan returns at the commencement of 1847, for the first time. Therefore the deaths for the previous year are not contained in the above table. In the quarter ending March, 1846, they were 142.

† Under the head of "sudden deaths" are classed not only deaths described as sudden, of which the cause has not been ascertained or stated; but also all deaths returned by the Coroner in vague terms, such as "found dead," "natural causes," &c., &c.

‡ In the years previous to 1848, "Worms" and "Infantile Fever" were classed together. The former, of very rare occurrence, is now placed to diseases of stomach, &c.

PUBLIC INSTITUTIONS IN LONDON.

mber of Inmates in Hospitals, Prisons, Lunatic Asylums, &c., and in the Workhouses of the following Unions or Parishes, on the 31st December, 1849, and 31st of March, 1850, with the Deaths registered in the Quarter ending March 31st, 1850; Annual Rate of Mortality per Cent.

WORKHOUSES, &c.	No. of Inmates, Dec. 31, 1849.	No. of Inmates, Mar. 31, 1850.	Deaths in the Quarter ending Mar. 31, 1850.	Annual Rate of Mortality in 100.
ddington (St. Mary)	..	194	14	29
nsington (Town)	..	300	17	23
mmersmith (St. Paul)	..	154	..	..
lham (Fulham)	..	189	7	17
elsea (North West)	..	446	28	25
George Hanover Sq. (Chelsea N.W.)	..	408	22	22
George Hanover Square (May Fair)	..	373	19	20
stminster (St. Margaret)	..	590	33	22
Martin-in-the-Fields (Charing Cross)	..	656	15	9
James Westminster (Golden Square)	..	639	20	13
rylebone (Rectory)	..	1,777	145	33
and (Tottenham Court)	..	565	44	31
ncras (Camden Town)	..	1,304	84	26
ington (West)	..	354	28	32
ckney (Hackney)	..	401	8	8
Giles (South)	..	778	70	36
lborn (St. Andrew East)	..	717	41	23
rkenwell (St. James)	..	435	28	26
hopsgate (St. Botolph) Females	..	290	23	32
lersgate (West London North) Males	..	187	15	32
st London (North)	..	453	36	32
reditch (Haggerstone West)	..	792	68	34
Luke (Hoxton New Town)	..	536	35	26
thnal Green (The Green)	..	789	37	19
itechapel (Mile End New Town)	..	380	5	5
itechapel (North)	..	596	76	51
George-in-the-East (St. John)	..	676	40	24
pney (Shadwell and Wapping)	..	329	11	13
pney (Ratcliffe)	..	259	20	31
pney (Mile End Old Town Lower)	..	243	23	38
pney (Limehouse)	..	381	2	2
ndon City (Bow)	..	826	35	17
plar (Poplar)	..	597	35	23
Saviour (Christchurch)	..	449	19	17
Olave (St. John Horselydown)	..	356	17	19
rmondsey (St. Mary Magdalen)	..	600	18	12
George Southwark (Borough Road)	..	399	30	30
wington (St. Peter Walworth)	..	345	49	57
mbeth (Lambeth Church 2nd)	..	1,055	61	23
ouet's House for Children (Brixton)	..	174	..	..
mbeth (Norwood)	..	474	2	2
ndsworth (Battersea)	..	436	16	15
mberwell (Camberwell)	..	386	11	11
therhithe (Rotherhithe)	..	233	14	24
eenwich (East)	..	1,065	36	14
wisham (Village)	..	239	13	22
George Southwark, for Children (Lewisham Village)	..	146	..	..
47. Total	..	23,972	1,370	23
HOSPITALS.				
MILITARY AND NAVAL ASYLUMS.				
yal Hos. Greenwich (East) Pensioners	2,663	2,626	82	12
yal Hos. Chelsea (South) Pensioners	512	511	34	27
yal Military Asylum Chelsea (South)	419	426	3	3
3. Total	3,594	3,563	119	13
GENERAL HOSPITALS.				
George (Belgrave)	285	308	63	85
stminster (St. Margaret)	149	157	35	92
aring Cross (Charing Cross)	112	79	15	63
ddlesex (All Souls)	228	361	47	64
iversity College (Tottenham Court)	111	113	22	79
yal Free (Gray's-inn Lane)	46	52	6	49
ng's College (St. Clement Danes)	96	96	38	158
Bartholomew (West London North)	513	492	164	83
ndon (Whitechapel Church)	321	338	91	110
y's (St. Olave and St. Saviour)	497	484	96	78
Thomas (St. Olave and St. Saviour)	417	439	66	62
11. Total	2,775	2,919	583	82
HOSPITALS FOR SPECIAL DISEASES.				
all Pox (Camden Town)	11	18	11	304
ver (Islington)	18	27	17	302
ck (Paddington)	53	55	..	..
nsumption (Brompton)	76	80	16	82
4. Total	158	180	44	104
LYING-IN HOSPITALS.				
een Charlotte's (St. Mary, Maryle-bone) ..... Women & Children	..	..	7	..
itish (South St. Giles) do. do.	7	5	3	200
y of London (City Road) do. do	26	31	13	182
rk Road, Lambeth (Waterloo 2nd part) do. do.	20	12	1	25
4. Total	53	48	17	135

HOSPITALS.—Continued.	No. of Inmates, Dec. 31, 1849.	No. of Inmates, Mar. 31, 1850.	Deaths in the Quarter ending Mar. 31, 1850.	Annual Rate of Mortality in 100.
MILITARY AND NAVAL HOSPITALS.				
Grenadier Gds. (St. John Westminster)	84	88	10	47
Coldstream Guards (ditto)	33	55	6	55
Scots Fusilier Guards (ditto)	61	65	3	19
Royal Ordnance (Woolwich Arsenal)	305	334	8	10
Dreadnought Ship (for Seamen, Greenwich West)	181	138	38	97
5. Total	664	675	65	39
LUNATIC ASYLUMS, &c.				
Kensington House (Town District)	69	..	3	17
Earl's Court House (Brompton) Females	29	..	..	..
Munster House (Fulham) Males	32	..	1	13
Otto House (Fulham) Females	24	..	..	..
Sussex and Brandenburg Ho. (Fulham)	31	..	1	13
Blacklands Ho. (Chelsea N. E.) Males	28	..	1	17
Northumberland Ho. (Stoke Newington)	60	..	1	7
Whitmore House (West Hackney)	31	..	1	13
Pembroke House (South Hackney)	109	..	3	11
Brooke House (Upper Clapton)	43	..	..	..
St. Luke's (City Road)	201	..	..	..
Miles' (St. Leonard Shoreditch) Hoxton H.	389	..	9	9
Warburton's (Bethnal Green) Bethnal Ho.	506	..	13	10
Grove Hall (Bow)	396	..	22	22
Bethlehem (London Road, Southwark)	397	372	7	7
Effra Hall (Brixton) Females	21	..	1	19
York House (Battersea) Females	21	..	1	19
Surrey County (Wandsworth)	662	..	32	19
Peckham House (Camberwell)	495	..	19	15
Camberwell House (Camberwell)	305	..	14	18
20. Total	3,849	..	129	13
HOSPITALS AND ASYLUMS FOR FOREIGNERS.				
German Hospital (Hackney)	32	37	6	70
French Hospital (City Road)	54	54	3	22
Spanish and Portuguese Jews (Mile End Old Town Lower)	29	30	2	27
German Jews (Mile End Old Town Lower)	95	100	1	4
4. Total	210	221	12	22
PRISONS.				
Tothill Fields House of Correction (St. Margaret Westminster)	645	723	2	1
Millbank Penitentiary (St. John Westminster)	1,093	1,232	11	4
Pentonville Model Prison (West Islington)	446	498	..	..
New Prison, Middlesex House of Detention (St. James, Clerkenwell)	108	125	..	..
Middlesex House of Correction (Amwell, Clerkenwell)	1,019	995	7	3
Debtors' Prison (Whitecross Street, Cripplegate)	204	228	..	..
Newgate (West London North)	163	186	..	..
Giltspur Street Prison and House of Correction (West London North)	302	274	1	1
Bridewell (West London South)	89	91	..	..
Queen's Bench (Borough Road)	177	196	..	..
Surrey County (Horsemonger Lane, Trinity, Newington)	Crime & Debt. 192	151	..	..
Convict Hulks (Warrior, Justitia)	845	806	..	..
Unité Convict Hospital Ship (Woolwich Arsenal)	1 Jan. 35	1 Apr. 46	3	30
The above Convict Hulks and Hos. Ships	880	852	3	1
14. Total	5,318	5,551	24	2

	Population. 31 Dec. 1849.	Population. 31 Mar. 1850.	Deaths in the Quarter ending 31 Mar. 1850.	Annual Rate of Mortality per Cent.
LONDON	2,226,362		13,219	2·33
London, exclusive of 108 Institutions	2,185,579		10,586	1·99
108 Public Institutions, mean of the two periods	40,783		2,363	23
47 Workhouses	..	23,972	1,370	23
3 Military and Naval Asylums	3,594	3,563	119	13
11 General Hospitals	2,775	2,919	583	82
4 Hospitals for Special Diseases	158	180	44	104
4 Lying-in Hospitals	53	48	17	135
5 Military and Naval Hospitals	664	675	65	39
20 Lunatic Asylums	3,849	..	129	13
4 Hosps. & Asylums for Foreigners	210	221	12	22
14 Prisons	5,318	5,551	24	2

NOTE.—In the Royal Military Asylum, Chelsea, 335 boys, from 5 to 15 years of age, belong to the Model School of the Institution. In Greenwich Hospital, the number of boys in the school was 782, on the 31st March, 1850, which number are not included in the oyal Hospital return of pensioners.

The number of women and infants in the Queen Charlotte's Lying-in-Hospital are not authentically given, as no diet-book is at esent kept.

Meteorological Table for the Quarter ending March 31, 1850.

NAMES OF THE PLACES.	Mean Pressure of Dry Air reduced to the level of the Sea.	Mean Temperature of the Air.	Highest Reading of the Thermometer.	Lowest Reading of the Thermometer.	Mean Daily Range of Temperature.	Mean Monthly Range.	Range of Temperature in the Quarter.	Mean Temperature of the Dew Point.	WIND.		Mean Amount of Cloud.	RAIN.		Mean Weight of Vapour in a Cubic Foot of Air.	Mean additional weight required to saturate a cubic Foot of Air.	Mean Degree of Humidity.	Mean whole Amount of Water in a Vertical Column of Atmosphere.	Mean Weight of a Cubic Foot of Air.	Height of Cistern of the Barometer above the level of the Sea.
									Mean estimated Strength.	General Direction.		Number of Days on which it fell.	Amount collected.						
	In.	°	°	°	°	°	°	°					In.	Gr.	Gr.		Gr.	Gr.	Feet.
Guernsey	29·885	43·0	54·0	28·0	6·9	19·3	26·0	39·7	1·7	E. & W.	6·2	41	6·6	3·1	0·4	0·890	3·6	548	123
Helston	29·871	43·6	56·0	25·0	9·9	24·7	31·0	40·6	1·6	E.N.E.	6·4	41	6·8	3·1	0·4	0·894	3·7	548	106
Falmouth	..	44·5	60·0	23·0	10·3	29·0	37·0	..	1·5	N. & W.	7·1	41	7·7	..	..	..	..	..	..
Truro	29·947	43·3	58·0	18·0	12·1	33·0	40·0	39·2	1·0	N.E. & S.W.	6·8	38	6·9	3·0	0·5	0·856	3·5	552	30
Exeter	29·970	41·5	60·7	20·1	13·7	34·6	40·6	38·0	1·9	E. & W.	4·9	32	4·1	2·9	0·4	0·874	3·5	556	140
Chichester	..	38·7	53·0	21·0	9·0	28·7	32·0	..	..	N.N.E. & S.W.	..	..	4·4	..	..	..	..	..	..
Uckfield	29·853	37·9	58·0	18·0	13·0	35·3	40·0	33·8	..	N.E. & W.	..	26	4·1	2·5	0·4	0·859	2·9	555	180
Southampton	29·896	40·1	60·0	10·0	8·1	32·5	50·0	35·5	0·4	..	6·4	22	4·2	2·7	0·5	0·876	3·1	553	55
Royal Observatory Greenwich	29·882	39·4	58·0	20·0	12·2	32·4	38·0	33·8	..	N.E. & S.W.	..	25	2·8	2·5	0·5	0·832	3·0	551	159
Maidenstone Hill, Greenwich	29·904	39·2	57·6	21·5	9·8	30·6	36·1	35·5	..	N.E. & S.W.	7·3	25	2·6	2·7	0·4	0·877	3·1	553	107
St. John's Wood	29·865	39·6	60·0	20·0	13·0	33·3	40·0	34·3	1·4	..	7·0	26	2·8	2·6	0·6	0·830	3·0	551	150
Chiswell Street, London	..	41·6	57·5	25·1	8·4	24·8	32·5	37·0	..	..	..	26	2·5	2·8	0·6	0·830	3·3	549	..
Latimer Rectory	29·874	37·4	56·0	10·0	14·4	35·7	46·0	32·0	1·6	N. & S.W.	6.9	28	3·9	2·3	0·6	0·820	3·0	549	355
Aylesbury	29·873	39·3	62·0	19·0	15·3	34·7	43·0	34·6	0·7	N.W.	7·4	29	3·1	2·6	0·4	0·850	3·1	548	284
Stone Observatory	29·859	37·6	55·0	16·9	12·9	33·6	38·1	32·9	1·1	N. & S.W.	6·7	26	2·4	2·4	0·5	0·845	2·9	549	320
Hartwell (near Aylesbury)	29·849	38·7	59·0	19·0	13·9	35·0	40·0	34·3	1·4	N. & S.W.	7·3	29	2·8	2·5	0·4	0·867	3·0	550	250
Hartwell Rectory	29·869	38·0	56·2	20·0	12·5	31·5	36·2	33·3	1·0	N.W. & W.S.W.	6·3	28	..	2·5	0·4	0·853	2·9	550	290
Saffron Walden	..	38·0	57·0	18·0	12·4	32·7	39·0	..	2·4	N.W.	5·6	26	2·4	..	..	..	..	..	..
Oxford	29·865	38·7	56·5	16·7	11·5	34·1	39·8	37·3	2·1	N.E. & S.W.	7·7	20	2·4	2·8	0·2	0·940	3·4	551	210
Rose Hill, Oxford	29·878	38·5	55·6	17·0	12·7	38·6	31·9	36·4	1·6	..	7·3	17	3·0	2·8	0·3	0·921	3·3	550	270
Cardington (near Bedford)	29·843	38·3	57·0	19·4	12·0	31·5	37·6	34·5	1·2	N. & S.W.	7·1	20	1·9	2·6	0·4	0·865	3·0	553	100
Norwich	29·853	38·5	56·0	14·0	10·2	31·0	42·0	33·8	..	S.W.	7·1	32	4·5	2·5	0·5	0·815	2·9	555	23
Holkham	29·824	37·7	56·7	16·0	10·9	32·6	40·7	33·7	1·2	Var.	7·1	37	3·9	2·5	0·4	0·865	2·9	555	39
Highfield House, Notts.	29·774	38·4	61·2	17·5	14·2	34·2	43·7	34·9	1·1	Var.	6·5	25	3·2	2·6	0·4	0·879	3·0	551	103
Derby	29·818	38·4	57·0	17·0	14·2	31·7	40·0	35·4	..	N.W. & S.W.	..	32	3·4	2·7	0·4	0·874	3·1	551	140
Manchester	29·842	39·7	..	..	..	..	..	35·0	..	N.W. & N.E.	7·5	..	..	2·7	0·5	0·892	3·1	551	144
Hawarden	..	39·2	57·6	17·5	11·0	32·0	40·1	34·7	1·0	W.N.W.	6·6	16	3·2	2·6	0·4	0·866	3·1	548	..
Liverpool Observatory	29·834	40·7	55·1	24·4	6·9	24·3	30·7	33·7	1·4	Var.	7·5	23	3·1	2·4	0·8	0·755	2·8	552	37
Wakefield Prison	29·796	39·0	62·0	15·5	12·1	32·8	46·5	35·7	..	W.S.W.	..	39	3·6	2·7	0·4	0·882	3·1	553	115
Leeds	29·796	38·2	59·0	20·0	10·5	29·7	39·0	35·8	1·8	N.W.	7·4	38	3·9	2·7	0·3	0·906	3·2	551	125
Stonyhurst Observatory	29·826	37·4	54·6	16·9	11·2	30·0	37·7	34·0	1·3	N.E. & W.S.W.	7·5	47	11·8	2·5	0·3	0·887	3·0	548	381
York	29·805	36·8	60·0	20·0	10·8	30·0	40·0	34·6	..	N.N.E & S.W.	..	27	2·6	..	..	..	..	..	50
Whitehaven	29·754	38·8	52·5	21·5	7·1	24·7	31·0	35·9	2·2	S.W.	..	43	8·8	2·7	0·2	0·923	3·2	553	90
Durham	29·760	38·2	57·4	18·0	9·3	30·7	39·4	35·0	1·3	S.W. & W.N.W.	5·6	34	3·6	2·6	0·4	0·865	3·0	546	340
Newcastle	29·742	39·5	55·0	21·0	10·8	29·2	34.0	35·5	..	N.W.	..	33	5·6	2·6	0·5	0·829	3·1	550	121
Glasgow	..	37·6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

The mean of the numbers in the first column is 29·847 inches, and it represents that portion of the reading of the barometer due to the pressure of air; the remaining portion, or that due to the pressure of water, is 0·224 inch; the sum of those two numbers is 30·071 inches, and it represents the mean reading of the barometer, for the quarter, at the level of the sea.

REVENUE.

Abstract of the Net Produce of the Revenue of Great Britain in the Years and Quarters ending 5th July, 1849 and 1850; showing the Increase or Decrease thereof.—(*Continued from page* 189.)

Sources of Revenue.	Years ending 5th July.			
	1849.	1850.	Increase.	Decrease.
	£	£	£	£
Customs	18,810,774	18,740,194	....	70,580
Excise	12,196,913	13,097,336	900,423	....
Stamps	6,103,408	6,325,499	222,091	....
Taxes	4,339,500	4,351,530	12,030	....
Property Tax	5,362,083	5,459,843	97,760	....
Post Office	849,000	817,000	....	32,000
Crown Lands	130,000	160,000	30,000	....
Miscellaneous	204,564	209,744	5,180	....
Total Ordinary Revenue	47,996,242	49,161,146	1,267,484	102,580
China Money	84,284	....	....	84,284
Imprest and other Moneys	606,568	682,807	76,239	....
Repayments of Advances	511,789	570,797	59,008	....
Total Income	49,198,883	50,414,750	1,402,731	186,864
Deduct Decrease			186,864	
Increase on the Year			1,215,867	

Sources of Revenue.	Quarters ending 5th July.			
	1849.	1850.	Increase.	Decrease.
	£	£	£	£
Customs	4,128,777	40,333,708	204,931	....
Excise	3,020,602	3,325,225	304,623	....
Stamps	1,619,697	1,590,767	....	28,930
Taxes	2,054,730	2,073,281	18,551	....
Property Tax	1,033,240	1,026,835	....	6,405
Post Office	196,000	210,000	14,000	....
Crown Lands	40,000	40,000	....	....
Miscellaneous	70,140	84,474	11,334	....
Total Ordinary Revenue	12,163,186	12,681,290	553,439	35,335
China Money	....	....	....	....
Imprest and other Moneys	109,875	135,827	25,952	....
Repayments of Advances	170,841	188,289	17,448	....
Total Income	12,443,902	13,005,406	596,839	35,335
Deduct Decrease			35,335	
Increase on the Quarter			561,504	

Consolidated Fund Operations.—The total income brought to this account in the quarter ending 5th July, 1850, was 13,014,950*l.* The total charge upon it was 7,754,012*l.*, leaving a surplus of 5,260,938*l.* The amount of Exchequer Bills issued to meet the charge on the Consolidated Fund for the quarter ending 5th April, 1850, and paid off out of the growing produce of that fund for the quarter ending 5th July, 1850, was 126,343*l.*

The surplus of the Consolidated Fund for the quarter ended 5th July, 1850, was 747,994*l.*

The surplus of Revenue, after providing for the charges on the Consolidated Fund, and the payment of Supply Services in the quarter ending 5th July, 1850, was 621,651*l.*

CORN.

Average Prices of Corn per Imperial Quarter in England and Wales, during each Week of the Second Quarter of 1850; *together with the Average Prices for the whole Quarter.*—(*Continued from p.* 190.)

Returns received at the Corn Office.	Wheat.		Barley.	Oats.	Rye.	Beans.	Peas.
	Weekly Average	Aggregate Average of Six Weeks' regulating Duty.	Weekly Average	Weekly Average	Weekly Average	Weekly Average	Weekly Average
Weeks ending, 1850.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
April 6	38 1	38 1	23 2	14 10	21 6	23 8	24 5
13	38 5	38 1	22 11	15 2	20 8	23 9	26 3
20	37 10	38 0	22 8	15 3	21 6	23 9	24 9
27	37 1	37 10	22 1	15 0	21 8	23 8	25 1
May 4	36 11	37 8	22 0	14 7	19 11	23 11	24 9
11	38 0	37 9	22 0	15 3	19 1	24 8	24 9
18	39 7	38 0	22 5	15 5	21 7	25 6	24 11
25	40 7	38 4	22 10	16 3	22 4	26 4	25 6
June 1	40 2	38 9	23 0	15 11	22 0	26 11	26 2
8	39 8	39 2	22 4	16 7	23 7	27 0	26 8
15	39 11	39 8	21 9	16 11	22 8	26 10	27 3
22	40 5	40 0	22 8	16 10	22 6	26 7	26 9
29	40 9	40 3	21 6	16 5	21 6	26 11	26 11
Average for the Quarter	39 0	..	22 5	15 8	21 7	25 4	25 8

Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ending 5th April, 5th May, and 5th June, 1850; *the Quantities Entered for Home Consumption during the same Months; and the Quantities remaining in Warehouse at the close of them.*—(*Continued from p.* 190.)

WHEAT.

Months ending.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1850.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
5th April	197,183	..	197,183	202,480	..	202,480	19,970	170	20,140
5th May	365,087	364	365,451	367,225	488	367,713	17,832	47	17,879
5th June	334,059	2,403	336,462	334,745	2,403	337,148	17,147	46	17,193

WHEAT-FLOUR.

Months ending.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1850.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
5th April	286,482	12	206,494	207,007	12	207,019	11,678	2	11,680
5th May	108,228	24	108,252	108,228	24	108,252	17,832	47	17,879
5th June	145,386	1,216	146,602	145,386	1,216	146,602	9,840	3	9,843

Fluctuations in the Stock and Share Markets during the Months of April, May, and June, 1850.

Stocks and Shares.	Amount of Share.			Amount Paid.			Price on the 1st of			Highest Price during the Months of			Lowest Price during the Months of		
	April.	May.	June.	April.	May.	June.	April.	May.	June.	April.	May.	June.	April.	May.	June.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.									
Consols	...	...	...	...	...	...	96⅛	95⅝	95 ex d.	96⅜	96½	96⅜ ex d.	95½	95	94¾ ex div.
Exchequer Bills	...	...	...	...	...	...	66*s.* Pm	68*s.* Pm	70*s.* Pm	71*s.* Pm	71*s.* Pm	71*s.* Pm	64*s.* Pm	67*s.* Pm	66*s.* Pm
RAILWAYS—															
Brighton	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	80	78½	83¼	80¼	83	84	75½	78¼	81½
Caledonian	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	8⅞	7⅞	10¼	9	9⅜	10½	6¾	7½	7⅜
Eastern Counties	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	7¼	7⅛	7⅛	7⅜	7⅜	7⅝	6⅞	7	7⅛
Great Northern	25 0 0	25 0 0	25 0 0	22 0 0	24 0 0	24 0 0	7¼	7⅞	10¾	7⅜	10	11⅛	5	7¾	9¾
Great Western	100 0 0	100 0 0	100 0 0	100 0 0	100 0 0	100 0 0	55	51	59	55¼	58½	60	46	50¾	57
London and North-Western	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	105	101¼	107	105¼	106½	110¼	99½	101	106
Midland	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	38½	32	37½	38¼	37	38	30¼	31¾	35
North Staffordshire	20 0 0	20 0 0	20 0 0	17 10 0	17 10 0	17 10 0	7⅛	7¼	8	7⅜	7⅝	8⅛	6½	7	6½
South-Eastern	33 2 4	33 2 4	33 2 4	33 2 4	33 2 4	33 2 4	14½	13½	15	14⅝	14¾	15⅝	12⅛	13	14½
South-Western	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	61½	58¼	64¼	62	63½	65	55¼	58	57
York, Newcastle, & Berwick	Stock	Stock	Stock	25 0 0	25 0 0	25 0 0	13	11⅞	14¾	13¼	14⅜	15⅝	10⅞	11¾	14⅜
York and North Midland	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	16¼	14¾	17⅝	16⅜	17¼	17½	13⅞	14⅝	16
Boulogne and Amiens	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	6⅜	6½	6¼	6⅜	6⅛	6¼	5	5⅞	6⅛
Northern of France	20 0 0	20 0 0	20 0 0	16 5 0	16 0 0	16 0 0	12⅞	12⅛	13¾	12⅞	13⅜	14	11⅞	11¼	13½
East Indian	20 0 0	20 0 0	20 0 0	...	7 0 0	7 0 0	5½	7⅜	7½	5⅜	7⅜	7½	5⅜	7⅛	7¼

Average Price of Meat as sold in Smithfield Market in the Months of April, May, and June, 1850.—(*Continued from p.* 191.)

Description.	April.	May.	June.	Description.	April.	May.	June.	Description.	April.	May.	June.
	s. d.	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*
Inferior Beasts	2 5	2 3	2 7	Inferior Sheep	2 11	2 9	2 11	Coarse Calves	3 2	2 11	2 8
2nd class	2 9	2 7	3 0	2nd Class	2 4	3 2	3 3	Small Prime Calves	3 8	3 3	3 2
3rd class (Large Prime)	3 1	3 0	3 5	3rd do. (long coarse wool)	3 10	3 5	3 7	Large Hogs	3 3	3 3	3 4
4th class (Scots)	3 6	3 6	3 9	4th do. (South Down)	4 3	3 9	3 11	Small Neat Porkers	3 9	3 9	3 9
				Lambs	5 2	4 10	4 4				

N.B.—Price of Meat at the rate of 8 lbs. Avoirdupois to the stone, sinking the offal.

CURRENCY.

BANK OF ENGLAND.

An Account, pursuant to the Act of the 7th and 8th Victoria, c. 32, for the Weeks ending on Saturday, the 13th April, the 4th May, the 25th May, and the 8th June, 1850.—(*Continued from p.* 192.)

ISSUE DEPARTMENT.

	Weeks ending,			
	13th April, 1850.	4th May, 1850.	25th May, 1850.	8th June, 1850.
	£	£	£	£
Notes issued	30,044,650	29,924,295	29,927,240	30,086,420
Government Debt	11,015,100	11,015,100	11,015,100	11,015,100
Other Securities	2,984,900	2,984,900	2,984,900	2,984,900
Gold Coin and Bullion..	15,800,773	15,714,418	15,717,363	15,876,543
Silver Bullion	243,877	209,877	209,877	209,877
Total	30,044,650	29,924,295	29,927,240	30,086,420

BANKING DEPARTMENT.

Proprietors' Capital....	14,553,000	14,553,000	14,553,000	14,553,000
Rest	3,077,384	3,106,835	3,067,271	3,056,796
Public Deposits	4,914,388	4,997,054	7,287,063	8,034,220
Other Deposits.....	10,969,389	10,649,502	9,608,436	9,450,246
Seven Day and other Bills	1,155,963	1,230,216	1,156,875	1,189,956
Total	34,666,124	34,536,607	35,672,645	36,284,218
Government Securities, including Dead Weight Annuities..	14,209,962	14,292,170	14,316,185	14,316,185
Other Securities	9,744,702	9,778,216	9,697,076	10,267,023
Notes	9,997,075	9,817,185	10,884,675	10,921,525
Gold and Silver Coin ..	714,385	649,036	774,709	779,485
Total	34,666,124	34,536,607	35,672,645	36,284,218

COUNTRY BANKS.

Average Aggregate Amount of Promissory Notes of Country Banks, which have been in Circulation in the United Kingdom, distinguishing the several Banks, or Classes of Banks by which issued in each part of the Kingdom, during the weeks ending 23rd March, 20th April, and 18th May, 1850.—(*Continued from p.* 192.)

Banks.	23rd March, 1850.	20th April, 1850.	18th May, 1850.
England—Private Banks	3,514,709	3,699,886	3,729,338
Joint Stock Banks	2,676,802	2,855,122	2,896,657
Scotland—Chartered, Private, and Joint Stock Banks.....	2,993,621	3,014,526	3,194,711
Ireland—Bank of Ireland, Private and Joint Stock Banks	4,490,324	4,488,785	4,468,835
Total.....	13,675,456	14,058,319	14,289,541

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DECEMBER, 1850.

Progress of the Foreign Commerce of France during the reign of Louis Philippe, 1830–48.—By J. T. Danson.

[Read before the Statistical Society of London, 17th June, 1850.]

Prefatory.

As the value of every inference from the contents of this paper must depend, in some degree, upon the character of the records whence its materials have been obtained, I must first ask your attention for a short description of these records.

They consist of accounts published annually by the customs' authorities of France*. These accounts contain tabular statements in detail of the exports from and imports into France, as measured by quantity, and also as measured by an official standard of value; and also include detailed accounts of the shipping by which the commerce by sea is carried on.

The series extends, with tolerable uniformity, from the year 1826 down to the end of the period embraced in the present paper. The nature, and, in part, the scope, of the information afforded, will be gathered from what follows; but it seems requisite first to attend to one or two points affecting, more or less, every figure I am about to place before you.

It is scarcely necessary to say that no official account can be expected to give a perfectly full description of all that is imported into or exported from any country: for, in the first place, all goods imported and exported do not pass under official cognizance; and, in the next, as far as they do so pass, their description, by number, weight, value, or any other standard, must always be more or less liable to error—especially as, with regard to a large proportion of such goods, fiscal regulations commonly render it profitable to deceive the official inspectors. France, also, having a highly restrictive tariff, and a frontier not easy to guard effectually, has been, during the whole of the period in view, rather ill-situated for rendering a perfect account of her commercial intercourse with the rest of the world. This inter-

* "Tableau Général du Commerce de la France avec ses Colonies et les Puissances Etrangères."

course is also somewhat less simple in form than that with which we are familiar; as it includes the guarding of an extensive frontier by *land* as well as by sea, and a *transit trade* for the supply of countries in central Europe having no sea-ports*. But I am not inclined, after a careful examination of the accounts referred to, to believe that they are, in this respect, and for the present purpose, materially imperfect.

There are, however, other and more important sources of error, especially affecting such collective and summary statements as those we are about to consider. I allude to the obvious difficulty of comparing the total imports or exports of one year, or any considerable part of them, with those of another year, in the absence of some common measure applicable alike to goods of every description; and to that, scarcely less obvious, of so framing such a standard as to render it worthy of reliance. The standard of value in money, the only one to which all commodities can be brought, as to a common measure, was applied to the entire imports and exports of France by a commission appointed for that purpose in 1825. The value then affixed to each article appears to have been deduced from the price prevailing at the time; and in 1826, when first used, therefore, the official value may be supposed to have represented nearly the actual value of the commodities. But the same values were applied continuously in each succeeding year down to 1847, and thus soon ceased to be of any use, except as facilitating a comparison of the total *quantity* of each commodity or class of commodities imported or exported in different years. But any such gross comparison of quantities affords only an imperfect indication of what is commonly meant by the phrase "commercial progress"—this having reference rather to the *value* of the commodities dealt with. Fortunately, however, we are enabled to recur, at the close of the period before us, to a standard based upon cotemporary prices.

Early in 1848 (by a decree dated 27th March, 1848), the French Government nominated a committee of eminent mercantile men, with directions to ascertain the actual values of the articles imported and exported in the preceding year, 1847. This committee held several meetings—the first on the 14th of April, and the last on the 24th of August, 1848—and affixed, accordingly, new values to 385 of the principal articles. By a second decree (dated 13th December, 1848), the committee was re-constituted and made permanent; and during the year 1849, it fixed the actual value, for the year 1848, of 1,302 articles. It is intended that henceforward this process shall be performed annually; and the official accounts are now adjusted to represent the value of each class of imports and of exports upon two parallel bases—the values of 1825 being used as a standing test of comparative

* Switzerland, Baden, Suabia, Bavaria, Franconia, and Rhenish Prussia, having no ports of their own, are supplied through those of their neighbours. Holland partly supplies them, by the Rhine, and France partly, from entrepôts established at Metz, Strasbourg, Besançon, and Lyons. Marseilles and Havre are the chief sea-ports for goods passing through France. The countries sending goods through France are, in the order of their official importance, Switzerland, England, the German Customs' Union, the Sardinian States, the United States, Belgium, the Two Sicilies, Tuscany, the Roman States, Spain, and others. But the standard here being one of *weight* only, not value, it affords no ground for any valuable inference.

quantity, and those of the current year as an approximate indication of the actual money value.

It is, however, necessary to observe, that neither the valuations of 1825, nor those of 1847 and 1848, are free from fault; and also that they are not quite uniform in point of method.

By the rule of 1825, the *exports* are valued at the place of production in France. This has the effect, on one hand, of excluding the cost of conveyance to the frontier (which the foreign purchaser must be supposed to pay), and, on the other, of improperly including, as to some articles of importance, the amount subsequently received by the exporter in the shape of drawback or bounty—and is therefore generally understood to give to the aggregate exports a somewhat higher value than is really due to them.

The committee of 1848 recommended that, for the future, the value should be taken, (1) at the point of leaving the French territory, and, (2) after deducting all payments of the nature of drawback or bounty, so as to obtain, as nearly as might be, the value actually exported. To the first point the Government agreed; but not to the second. Both the old and the new values, therefore, are faulty on this point, but they are not uniformly so; and the old values are, though most defective in method, the nearer to the truth in effect.

As to the *imports*, by the rule of 1825, the value is taken at the foreign place of production; and by that of 1848 it is taken, with better reason, on the arrival of the goods at the French frontier, but before the payment of any import duty. The old value of the imports is therefore somewhat under the truth, and the new value is probably a near approximation to it.

Further, it may be observed that the classification and nomenclature of the official accounts, modelled upon the tariff laws of 1816, 1820, 1822, and 1826, has, in the meantime, and especially as to textile fabrics, become in some respects antiquated; and so no longer admits of a classification of details as accurate as is desirable. A new classification has been strongly recommended; but has been postponed, on the ground that such a change would destroy the uniformity which now facilitates the comparison of successive years. And it seems clearly desirable that such changes should not be made lightly, or more frequently than is really necessary.

Having stated what appear to me to be the chief defects of these accounts, I may add that they are not, in my opinion, such as to offer any very serious obstruction to an inquiry so general as that undertaken in the present paper. The valuation of 1825 appears to have been applied uniformly through the entire period, and the errors resulting from its defects admit of approximate correction. A similar correction may also be readily applied to the recent valuation. And the errors of an antiquated classification of details have no material bearing on the more important results of an analysis which is scarcely carried into details.

In the French customs' accounts, the *imports* are divided under three heads:—

1. Materials for manufacture (Matières nécessaires à l'industrie).
2. Consumable produce—raw (Objets de consommation—naturels).

3. Consumable produce—manufactured (Objets de consommation—fabriqués).

The exports are similarly divided under two heads:—

1. Raw produce (Produits naturels).
2. Manufactured produce (Objets manufacturés).

These distinctions were first established in 1820. They are necessarily to some extent arbitrary; and articles are found in each class which might with no less propriety be placed in one of the others. But these instances are exceptional, and are practically inseparable from any such classification; and, for the present purpose I believe the official distinctions may be accepted without danger of any considerable error.

A further distinction is made between the *general* and the *special* commerce—the general including all goods *imported*, whether (1) for use or consumption in France, (2) for re-exportation, or (3) for transit to certain inland districts in the south and west of Germany whose maritime commerce is conducted through French ports, as well as all goods *exported*, whether of French or of foreign production—and the *special* commerce including, as to *imports*, only such as are destined for French use; and as to *exports*, only such as are of French production.

General.

The period in view may, in strictness, be said to commence in July 1830, and to end in February 1848. For the sake of simplicity and distinctness I have assumed that it embraces the eighteen entire years, from 1830 to 1847 inclusive. The progress of French commerce during this period is, of course, only to be fully ascertained by a consecutive examination of it during the whole series of years; but a general idea may be had from a comparison of its state at the beginning and end of the period only. The following table presents such a comparison:—

Table A.

[Valeurs exprimées en Millions de Francs.]

Years.	Commerce Général.							Commerce Spécial.						
	Importations.				Exportations.			Importations.				Exportations.		
	Matières Nécessaires à l'Industrie.	Objets de Consommation.		Totaux.	Produits Naturels.	Objets Manufacturés.	Totaux.	Matières Nécessaires à l'Industrie.	Objets de Consommation.		Totaux.	Produits Naturels.	Objets Manufacturés.	Totaux.
		Naturels.	Fabriqués.						Naturels.	Fabriqués.				
1827....	357·	139·	70·	566·	259·	344·	602·	276·	100·	38·	414·	158·	349·	507·
1828....	367·	173·	68·	608·	267·	343·	610·	279·	137·	38·	454·	167·	344·	511·
1829....	380·	171·	65·	616·	231·	377·	608·	308·	140·	35·	483·	153·	351·	504·
Average	368·	161·	67·	596·	252·	354·	606·	287·	125·	37·	450·	159·	348·	507·
1847....	638·	434·	218·	1,290·	344·	705·	1,049·	543·	364·	49·	956·	191·	529·	720·
Excess per cent.	} 73	171	225	116	36	99	73	89	191	32	112	20	52	42

It will be observed that I have taken the total value of each branch of the imports and exports, general and special, for the three years immediately preceding 1830, and placed the common average of these to represent the state of French commerce at the beginning of this period. To have included 1830, or 1831, in the average, would have been objectionable; as both these years were much affected by political disturbance. And, all things considered, the average taken seems to me to afford the safest available basis of comparison. At the close of the period before us, if we would avail ourselves of the new valuations, we have to choose between the two years 1847 and 1848. The latter must be rejected, as having been disturbed in the same manner as 1830. The single year 1847 affords a very narrow basis of comparison; but it appears to be a tolerably safe one, as, with the exception of the corn trade (of which more presently), the trade of the year presents no very remarkable or exceptional features, when compared with that of several years preceding. On the other hand, it is to be regretted that the new valuation, though extended, in 1847, to 385 of the principal articles, and so embracing all that are of much importance, either individually or collectively, is not, for that year, in any sense perfect.

And now for the disturbance by the corn trade. It is scarcely possible to look at this table without remembering that the years at the beginning (1827-8-9), and that at the end (1847), were marked by unusually large importations of corn into France; and a cursory examination of the details is enough to show that no inference as to the ordinary commerce of the country can be safely deduced from the figures as they stand. I therefore withdraw, alike from the imports and exports, the value of all cereal produce, and repeat the table, as thus corrected:—

TABLE B.

Years.	Commerce Général.							Commerce Spécial.						
	Importations.				Exportations.			Importations.				Exportations.		
	Matières Nécessaires à l'Industrie.	Objets de Consommation.		Totaux.	Produits Naturels.	Objets Manufacturés.	Totaux.	Matières Nécessaires à l'Industrie.	Objets de Consommation.		Totaux.	Produits Naturels.	Objets Manufacturés.	Totaux.
		Naturels.	Fabriqués.						Naturels.	Fabriqués.				
1827....	357·	136·	70·	563·	250·	344·	593·	276·	99·	38·	413·	149·	349·	498·
1828....	367·	145·	68·	580·	262·	343·	605·	279·	112·	38·	429·	163·	344·	507·
1829....	380·	131·	65·	576·	227·	377·	604·	308·	100·	35·	443·	148·	351·	499·
Average	368·	137·	67·	573·	246·	354·	600·	287·	103·	37·	428·	153·	348·	501·
1847....	638·	203·	218·	1,059·	303·	705·	1,008·	543·	155·	49·	747·	186·	529·	715·
Excess per cent.	73	48	225	84	23	99	68	89	50	32	74	21	52	42

The table (B) now exhibits the following results:—

	Increase per cent. in 18 years.	
	General Commerce.	Special Commerce.
IMPORTS.		
Raw materials, for manufacture	73	89
Consumable produce, raw	48	50
,, ,, manufactured....	225	32
General increase.....	84	74
EXPORTS.		
Raw produce	23	21
Manufactures	99	52
General increase.....	68	42

It would occupy too much of the time now at our disposal, to enter upon any very close examination of the fact here presented to view—that while, in 1827-8-9, as regards both the general and the special commerce, the exports appear to have been more valuable than the imports; in 1847, the balance was reversed, the imports having become more valuable than the exports. It follows, of course, that there was a larger increase per cent., in the interval, upon the imports than upon the exports. It is well known that the French people, and consequently the French government, have been attached, all through the period in view, to the old theory of "*the balance of trade.*" It would appear that a desire, prompted by the prevalence of this theory, to swell the apparent value of the exports, and to keep down that of the imports, prompted the erroneous method of taking the official values fixed in 1825. As I have stated, this erroneous method was corrected, as to the imports, in taking the values of 1847. This correction has of course given an enhanced value to the imports shown at the end of the period, as compared with those shown at the beginning; and so accounts, in great measure, for the reversal of the balance. And, on examining the table, it would also appear that little further correction of the general amount is probably necessary; and that the error of valuing all French exports at the locality of production, instead of taking their value as they leave the French territory (thus excluding the cost of transit to the frontier), nearly balances the error, on the other side, of including in the exported value the amount paid on some exports in the shape of bounty. But this is a topic upon which, at present, it seems needless to enlarge.

The greater increase of the *general* than of the *special* commerce, seems to be mainly attributable to two circumstances:—

1. The regulation, by the law of 9th February, 1832, upon a more liberal basis than before, of the *transit* trade; and,

2. The formation, in 1834, of interior entrepôts for the deposit of goods in bond.

Details.

Section I.—*Manufactured Produce.*

The most interesting part—to us—of this comparison of the French imports and exports of 1827-8-9, with those of 1847, is that concerning the manufactured produce. As regards the proportion of manufactured produce in her *exports*, France may be said to occupy a medium position. The United Kingdom exports scarcely anything but manufactures—the United States scarcely anything but raw produce—and the exports of France appear to be, in point of value, about three-fifths manufactured and two-fifths raw.

It would seem, from the figures before stated, that the value of the exports of French manufactures had increased between 1827-8-9 and 1847, by about 52 per cent., while the imports of foreign manufactures for French consumption had increased by only 32 per cent. It is probable, for reasons already stated, that the apparent increase of the French consumption of foreign manufactures, comparatively small as it is, is overstated. For the present, however, I confine my attention to the 52 per cent. of apparent increase in the value of the *exports* of *French* manufactures. This 52 per cent., it will be remembered, results from a comparison of two quantities, both of which are in excess, by the whole amount received by the French exporter in the shape of drawback upon his raw material, or of bounty upon the export of his goods —this amount having been improperly included in the export value, as taken officially. The sum total of the bounties* paid on the export of French manufactured produce in each of the years referred to was, by the official accounts, as follows:—

	Fr.
In 1827	10,149,433
1828	10,311,199
1829	12,700,842†
Average	11,053,824
In 1847	20,619,869‡

The correction for these bounties, applied to Table B, reduces the average value of the exports of French manufactures, for 1827-8-9, from 348,000,000 to 337,000,000f.; and the corresponding item for

* It should be observed that the distinction between bounty and drawback on French manufactures exported is not marked in the French accounts. Most of the bounties are given in the shape of a drawback on foreign material; but the drawback is so far excessive—as, in the case of refined sugar, by allowing too high an official value to the raw sugar as imported, and in that of woollen manufactures, by allowing too much for the wool lost in the process of manufacture—that it becomes in effect a bounty.

The bounties referred to in the text are exclusive of those (not important in amount) paid on the export of salted provisions to counterbalance the *excise* duty on *salt*.

† Thus distributed:—Refined sugar, 8,010,628f.; woollens, 2,329,811f.; cottons, 931,339f.; molasses, 686,127f.; soaps, 545,627f.; and the remaining 200,000f. to seven other articles.

‡ Thus distributed:—Refined sugar, 12,439,751f.; woollens, 5,704,933f.; cottons, 1,567,138f.; soaps, 657,873f.; and the remaining 250,000f. to eight other articles.

1847, from 529,000,000 to 509,000,000f. The corrected difference (172,000,000) gives 50 instead of 52 per cent., as the increase in the value of this branch of the exports. Hence we may infer that the actual increase in the value of all French manufactures exported, between the beginning and the end of the reign of Louis Philippe, was about, or not much less than, 50 per cent.

Following this branch of the subject into detail, I select ten articles exported under bounty in 1827-8-9, and in 1847*, in order to compare their aggregate value at each period with that of the articles exported without any such inducements:—

TABLE C.

Aggregate Value of French Manufactures, Exported under Bounty, or with benefit of Drawback, in 1827-8-9 *and in* 1847, *according to their "Actual" Values.*

Articles Exported under Bounty, &c.	"Actual" Value in 1827-8-9. (Average.)	"Actual" Value in 1847.
	Fr.	Fr.
1. Sucres raffinés	6,613,000	10,950,000
2. Savons	1,833,000	2,370,000
3. Soufre raffiné	230,800	268,000
4. Fils et tissus de coton	48,278,000	53,925,000
5. ,, de laine	31,078,000	74,176,000
6. Acides, nitriques et sulfuriques	121,600	95,300
7. Chapeaux de paille	1,676,000	682,000
8. Peaux, tannées et corroyées	3,932,000	5,409,000
9. Plomb, battu et laminé	140,500	186,000
10. Cuivre, pur et allié de zinc, battu et laminé	431,600	478,000
Totals	94,334,500	148,539,300

Here the increase is from 94·3 to 148·5, or about 57 per cent. But these bounty-paid exports are, as before stated, in excess by the amount of the bounty, and this being corrected, the true increase of value appears to have been not 57, but 53 per cent.

If the values of the exports made under bounty be deducted from the total of the same class, the values of the remainder, at the beginning and end of the period in view—that is to say, of the exports of French manufactures made without any such inducement, in 1827-8-9 and in 1847—appear to have been, respectively, 254,000,000 and 381,000,000. A slight correction is required for the exclusion of molasses from the account of exports under bounty; this article receiving a bounty in 1827-8-9, and not in 1847. This correction being made, the exports without bounty at the two dates compared, are expressed by the figures 253 and 381, showing an increase of 50 per cent.

Thus, the exports of French manufactures receiving bounties, and forming about two-sevenths in value of all the exports of that class,

* These ten articles include all that were exported under bounty or drawback in 1827-8-9, and in 1847, excepting two—*molasses*, which had, in 1847, ceased for some years to be so exported, and *solid mahogany furniture* (meubles d'acajou massif), an item apparently too small to be distinguished in the official returns.

seem to have increased in value, during these 18 years, by about 53 per cent.; while those not so stimulated increased in value by about 50 per cent.

It will be observed that about seven-eighths in value of the manufactures exported under bounty in 1827-8-9, and nearly the same proportion in 1847, consisted of *cotton* manufactures and yarn, and *woollen* manufactures and yarn.

It is scarcely necessary to observe that in France, as in Great Britain, all the four great branches of modern textile manufacture, cotton, wool, linen, and silk, are carried on, both for the home and the foreign trade. The relative importance of each to the foreign commerce of the two countries, as it was in 1827 and again in 1847, is expressed in the following statement of their exports.

From the United Kingdom we exported, of declared value, expressed in millions of francs*—

	In 1827.	In 1847.
	Fr.	Fr.
Cotton—manufactured goods	320·2	434·3
Woollen ditto	131·1	172·4
Linen ditto	47·3	73·9
Silk ditto	5·9	24·6
	504·5	705·2

From France there were exported, in the same years, "actual" value, similarly expressed.

	In 1827.	In 1847.
	Fr.	Fr.
Tissus de coton.....	46·0	53·0
,, de laine	26·9	69·7
,, de lin ou de chanvre†	44·0	20·8
,, de soie et de fleuret	115·3	149·0
	232·2	292·5

[This statement *excludes*, as to both countries, the value of *twist and yarn* exported, in which we have a large trade and the French very little.]

The aggregate value of the French exports of these fabrics is, then, by these accounts, considerably less than half the value of ours; and this notwithstanding their exports are certainly over-valued.

Between 1827 and 1847 their aggregate appears to have increased in value by 26 per cent.—ours by 39 per cent.

We have, in the same interval, increased the value of our exports of *each* of the four fabrics: cotton by 35 per cent., woollen by 31 per

* Exchange at 25f. to the 1*l.* sterling.

† Manufactures of linen and hemp are classed under one head in the French accounts.

cent., linen by 55 per cent., and silk by no less than 300 per cent. From France, during the same 20 years, the exports of silk goods have increased nearly as much as our exports of cottons, or by about one-third; their exports of woollens have increased very largely; those of linen have fallen very much; and their exports of cotton goods show an increase which, considering the "protection" they receive, must be regarded as very small. But by way of exhibiting on a broader basis the relative progress of the French exports of these fabrics, I repeat the above comparison, substituting an average of the years 1827-8-9 for the single year 1827.

TABLE D.

French Exports. (*Special Commerce.*)

[Value expressed in Millions of Francs.]

	Average of 1827–8–9 by the Values of 1825*.	In 1847 by the Values of that year.	Increase per Cent. in the interval.
	Fr.	Fr.	
Tissus de soie et de fleuret.....	113·9	149·0	31
,, de laine	28·9	69·7	146
,, de coton	47·6	53·0	12
,, de lin ou de chanvre	39·2	20·8	(*decrease* 48 per cent.)
	229·6	292·5	

Taking the four fabrics together, there would appear to have been, during the reign of Louis Philippe, an aggregate increase in the value of this branch of the French exports of about 27 per cent. But it is to be observed, that about two-sevenths in value of these exports were made under bounty; and I must also add that the comparison is materially affected by a law passed in 1843, imposing a duty, prohibitory in effect, on the importation of any but French cotton goods into Algeria; the consequence of which appears to have been to increase immediately and very largely the quantity of French cottons exported to that country. In the three years 1841-2-3, their value (using the standard of 1825) averaged 5,700,000f., and in 1845-6-7 they were at an average of 38,800,000f., or about six-fold. The actual value of French cotton fabrics sent to Algeria in 1847 is returned at 11,083,409f.; and if, as the accounts appear to indicate, about five-sixths of this amount may be set down to the protective effect of the law of 1843, the inference is clear that that law alone prevented the

* As the goods here referred to all have a tendency to fall in price with the lapse of time, the values of 1825 most likely give a higher value to the exports of 1827-8-9 than is properly due to them. But the effect of any such error in the comparison here made is probably counterbalanced by the excess of value given to the exports of 1847, by the change in the method of valuation thus made, and described at page 291, *ante*.

total value of the French exports of cotton goods being actually less in 1847 than in 1827-8-9; in lieu of showing, as they do in the above table, an increase of 12 per cent.

At the beginning of the period in view, the articles last mentioned (manufactures of silk, wool, linen, and cotton) formed about two-thirds of all the French exports of manufactured produce. Their relative importance has since been diminished. Instead of forming about 23 parts out of 34, they now make up but 30 parts out of 52; or about three-fifths instead of two-thirds.

The articles next in importance to the four above mentioned.

Below is a comparison of the value of the similar exports, under the eight official heads next in importance, in 1827-8-9, and again in 1847 :—

Table E.

	Values Exported (in millions of francs).	
	In 1827-8-9, (average) by the valuation of 1825.	In 1847, by the valuation of that year.
	Fr.	Fr.
Peaux ouvrées	13·0	34·8
Tabletterie, bimbeloterie, mercerie, parapluies, meubles, et ouvrages en bois	11·4	30·8
Poterie, verres, et cristaux	10·9	15·1
Papier et ses applications	10·3	19·6
Sucre raffiné	6·2	11·0
Linge et habillements	6·9	17·7
Articles divers de l'industrie Parisienne	5·6	3·6
Parfumerie	5·3	8·9
	69·6	141·5

Upon these articles there is an aggregate increase in the value of the exports of 105 per cent. At the beginning of the period in view, they formed about one-seventh of the total exports of the same class; at the end, they form more than one-fourth. There is but one article in the list (refined sugar) that has had the benefit of a bounty; and the exclusion of that rather improves the aspect of the rest. They then show an increase of 106 instead of 105 per cent. These articles (excluding refined sugar) are all of one description; for in the production of all of them the French have an acknowledged superiority in point of taste. I have shown that the whole of their manufactured exports, enjoying bounties from the State, have increased in value at most only by 50 per cent. It seems, therefore, especially worthy of observation, that these articles, the exports of which are stimulated only by the peculiar skill of the French artisan, have, in the same period, increased their export value by more than 100 per cent.

We have now passed in review by far the greater part, in value, of the French exports of manufactured goods—as will appear by comparing the following summary with the total shown in Table B.

TABLE F.

Summary View of the Progress of the Exports of French Manufactured Goods between 1827-8-9 *and* 1847.

[Valeurs exprimées en Millions.]

	In 1827–8–9. (By the Values of 1825.)	In 1847. (By the Values of that year.)	Rate of Increase per Cent.
	Fr.	Fr.	
1. The four largest items—the fabrics of silk, wool, cotton, and linen (those of cotton and wool being under bounty) appear to have had an aggregate value of	229·6	292·5	27
2. The eight items next in importance (one—refined sugar—being under bounty) enumerated in Table E.....	69·6	141·5	105
3. The remaining items (very numerous, and ten or twelve of them under bounty)	48·8	95·0	93
	348·0	529·0	52

The "remaining items," placed No. 3 in Table F, consist of a great number of articles, generally of small value individually, of which the most important in 1847, and also the exports of which had increased most since 1830, are

Ouvrages en métaux,
Machines et mécaniques,
Couleurs,
Extraits de bois de teinture,
Orfévrerie et bijouterie,
Modes et fleurs artificielles,
Médicaments composés,
Horlogerie,
et Savons.

It seems hardly necessary to observe that these, too, are all articles in the production of which French industry has some acknowledged superiority.

And now, upon this part of the subject, I would offer to your consideration the following general conclusions :—

1. That the exports of French manufactured produce, which are encouraged by bounties, and which formed, alike at the beginning and at the end of the period in view, about two-sevenths (in value) of this class of exports, appear by these accounts to have increased in their aggregate value by rather more than 50 per cent.

2. That the remainder of the exports of this class—not so stimulated—also increased in value, in the aggregate, by about 50 per cent.; and

3. That the greater part, by far, of the general increase of value, is traceable, distinctly, to the exportation of articles which receive no special protection from the state, but to which the personal skill and taste in design of the artisans of France are acknowledged to impart a peculiar value.

Distribution of Manufactured Exports.

Before leaving this branch of the subject, it may be well to give one glance at the *distribution* abroad of the exports of French manufactured produce. Their total value, in 1827 (by the valuation of 1825), was 348,600,000f., and about 75 per cent., in value, was exported to the following ten countries, standing highest on the list of customers:—

		Mills. of Francs.
1	to the United States	62·9
2	,, Holland and Belgium	44·3
3	,, Spain	30·0
4	,, Germany	27·9
5	,, England*	24·3
6	,, Sardinia	16·2
7	,, Switzerland	15·9
8	,, Martinique	15·3
9	,, Guadaloupe	13·6
10	,, Mexico	11·1
		261·5

In 1847, the total value exported was 528,790,000f.; nearly three-fourths (74 per cent.) were exported, as before, to ten chief customers, and they were the following:—

		Mills. of Francs.
1	to the United States	99·3
2	,, England	69·4
3	,, Algeria	41·2
4	,, Spain	37·6
5	,, Belgium	36·2
6	,, The German Customs' Union	34·9
7	,, The Sardinian States	26·2
8	,, Switzerland	21·5
9	,, Brazil	14·1
10	,, Martinique	11·2

The United States, and England, then, are the chief foreign consumers of French manufactures; and are also those whose consumption appears to be increasing most rapidly. Yet here there is a wide difference to be marked.

The United States took about 50 per cent. more, in value, in 1847 than in 1827,—but England, in the same period, seems to have increased her purchases by 183 per cent., or nearly three-fold.

The next best customer, of late, has been Algeria; and this draws our attention to the large proportion of French manufactured produce sent to *her colonies*. Its average value, in 1827-8-9, was 37,700,000f. In 1847, its value was 79,200,000f. These sums, deducted from the aggregate amounts (*in Table B*), give, as the apparent increase in the value of French manufactures exported to *foreign* countries (exclusive of French colonies), 44 per cent.,—the increase, apart from this distinction, figuring, as before stated, at upwards of 50 per cent. And in this respect, and to this extent, the conclusions already presented are subject to correction, if the exports of France to her colonies are to be deemed exceptional.

* It should be stated, that with England, in these accounts, is included Gibraltar, Malta, and the Ionian Islands.

Section I.—Part 2.

Consumption of Foreign Manufactures.

We have yet to consider *the imports of foreign manufactures for French consumption.* These, however, may soon be disposed of. During the whole period in view (and long before), it was one of the ruling principles of French commercial legislation to reduce this branch of the foreign trade to the narrowest possible limits. There was, indeed, a slight movement in favour of a more liberal policy, after the revolution of 1830. But this did not last long; and little was effected under it. In the latter years of the reign of Louis Philippe, the legislature displayed a strong tendency to tighten the restrictions of the protective system.

We have seen (Table B) that the value of the manufactures imported into France, in the general commerce (i.e. for *consumption*, for *transit*, and for *re-exportation*), was 67,000,000f.; and that in 1847 it had risen to 218,000,000f.—an increase of more than 200 per cent. But in the same period, the imports in the special commerce (i.e. for French consumption) increased only from 37,000,000f. to 49,000,000f., or about 32 per cent.

Subjoined is a statement of the six items of the *special* commerce which alone are sufficiently large to be distinguished in the official accounts, as they stood for the three years 1827-8-9 :—

	1827.	1828.	1829.	Average.
	Fr.	Fr.	Fr.	Fr.
Tissus de lin ou de chanvre	18·1	18·1	16·2	17·4
Chapeaux de paille	4·5	4·2	3·7	4·1
Tissus de soie	1·7	1·8	2·3	2·0
Bimbeloterie et mercerie	2·4	2·6	2·3	2·4
Instruments aratoires, limes, râpes, scies, et outils	2·6	2·4	2·1	2·4
Machines et mécaniques	1·0	0·8	0·8	0·9
	30·3	29·9	27·4	29·2
Totals	38·2	38·3	35·2	37·0
Articles not distinguished	7·9	8·4	7·8	7·8

At this period, manufactures of linen and hemp formed, then, nearly one-half, in value, of the (duty-paid) foreign manufactures consumed in France. In 1847, the consumption of every article in the above list, except two, had fallen off considerably. The exceptions are silk manufactures and machinery.

On the next page is a list of the like articles specified in the accounts of 1847. They are eight in number; the two added being *Horlogerie* and *Armes.*

We may infer from the total gross increase in value falling into the class of articles not distinguished, that, excepting the increased consumption of clocks and watches, silk goods, and machinery (which may be assumed to account for one-fourth of the whole increase of 32 per cent.), the rest has been taken in numerous articles, individually of small value.

The growing items of this branch of trade, or rather those permitted to increase in value under the rigid restrictions of the protective system, are, evidently, in the order of their present importance: 1st., clocks and watches; 2nd., silk manufactures; and 3rd., machinery.

Switzerland has the chief, indeed almost sole, interest in the clocks and watches, and England has the largest interest in the silk manufactures and machinery.

Foreign manufactured Goods imported and entered for French consumption in the year 1847, *in Millions of Francs.*

1. Tissus de lin et de chanvre	12·1	Fr.
2. Horlogerie	5·0	
3. Tissus de soie	4·2	
4. Machines et mécaniques	2·3	
5. Chapeaux de paille	2·1	
6. Instruments aratoires, &c.	1·2	
7. Bimbeloterie et mercerie	1·0	
8. Armes	0·6	
	28·5	
Total	49·0	
Articles not distinguished	20·5	

Of the whole value of 49,000.000f., thus imported in 1847, nearly 42,000,000 came from five countries, thus:—

From Belgium	16·3	Fr.
(Linen and hemp manufactures and yarn, and thread lace, with some silks, cotton goods, arms, and many other articles of less value.)		
From England	9·6	
(Silk manufactures, machinery, linen manufactures, cashmeres, with some works in metal, paper, books, and engravings, mercery and buttons, and other articles.)		
From Switzerland	8·5	
(Clocks, watches, silk manufactures, &c.)		
From Tuscany	3·8	
(Chiefly straw hats.)		
From the German Customs' Union	3·6	
(Mercery and buttons, paper, books, and engravings, wooden clocks, and toys.)		
	41·8	

A cursory examination of the French tariff suffices to explain the small apparent value of their importations of manufactured produce. To mark only the articles the importation of which is *prohibited* (and which are also, in most instances, made liable to seizure wherever they may be found within the country) is to observe that all those which enter most largely into the export trade of the United Kingdom are entirely, or with very small exceptions, inadmissible in France. Most of these prohibitions rest upon the unrepealed portions of a law passed on the 1st of November, 1796 (10 Brumaire, an V).

The most important exceptions are dated in 1836 and in 1841; and consequently affect only the latter half of the period in view.

All cotton goods are prohibited entry, under a law dated in 1809*; but an exception was made, as to nankeens from India, in 1820†; and

* 10 Mars, 1809. † 7 Juin, 1820.

another, as to thread lace, made by hand, in 1836*; exceptions, however, in which we have very little interest. It is the same as to cotton yarn or thread, with an exception (first made in 1836†), admitting the finest descriptions, at a duty of 7 or 8 per cent. on the value.

Woollen goods are also prohibited, by laws dated in 1796, 1816, and 1826‡, with a few exceptions, made in 1820, 1826, and 1836§; but under high duties. It is the same with woollen thread and yarn, with slight exceptions made in 1841 ‖.

Linen manufactures are admitted, though generally at high duties, the only prohibition applying to net (*tulle*) made of linen thread. The import duty on linen yarns, however, has been increased during the last ten years.

Silk goods are prohibited entry only when mixed with artificial gold or silver; or in the form of net.

Here the rule observed as to the *exports*—of giving special protection to the cotton and woollen manufactures, but leaving those of silk and linen more to themselves,—is still observed.

Almost every description of goods included under the English terms *hardwares* and *cutlery*¶,—all articles plated with gold or silver** (with the single exception of *buttons*, since 1841††),—all *glass* manufactures, with a few exceptions,—all *earthenware*, or pottery, of the description commonly known on the continent as "English‡‡" (being that which the skill and enterprise of Wedgwood and his followers have carried to such perfection in this country),—also all soap§§, except such as will pass under the name of perfumery,—all distilled liquors‖‖‖, with exceptions not applying to any distilled in the United Kingdom,—all manufactured tobacco¶¶, and refined sugar***,—and, generally, all articles made by hand, of fine woods, ivory, mother-of-pearl, &c.†††, are also prohibited entry.

But the French imports of manufactured goods are, undoubtedly, larger than they are stated to be in the official returns. The articles prohibited, and those most highly taxed, are generally, also, those most easily smuggled; and that the value of the contraband goods escaping detection must be great, is proved by the fact that smuggling goes on, notwithstanding seizures made every year to a large amount. The merchandize seized on importation in the last three years of the period in view, was valued—

In 1845, at	427,061 Fr.
1846, at	387,924
1847, at	422,076
Average.....	412,353

And the extent of the contraband trade, if it be considerable, is, of course, to be taken into account, in any general view of the actual commerce of the country.

[I hope, at a future period, to lay before you some further results of this inquiry.]

* 2 and 5 Juillet, 1836. † 2 Juillet, 1836; and 6 Mai, 1841.
‡ 1 Novembre, 1796; 28 Avril, 1816; and 17 Mai, 1826.
§ 7 Juin, 1820; 17 Mai, 1826; and 5 Juillet, 1836. ‖ 6 Mai, 1841.
¶ 10 Brumaire, an V. ** 10 Brumaire, an V. †† 6 Mai, 1841.
‡‡ 10 Brumaire, an V. §§ 11 Juillet, 1810. ‖‖‖ 28 Avril, 1816.
¶¶ 7 Juin, 1820. *** 28 Avril, 1816. ††† 10 Brumaire, an V.

Examination of the recent Statistics of the Cotton Trade in Great Britain.

By G. R. Porter, Esq., F.R.S.

[Read before the Statistical Section of the British Association, 5th August, 1850.]

The fear of being dependent upon foreign countries for the supply of any article of first necessity has often influenced the mind of the public, although the cases can be but very few in which that fear can have any just foundation. It must be evident, upon the slightest reflection, that if the industry and capital of any country have been applied to the production of any article, the market for which is habitually found in some other country, it must be at least as disastrous for the producing country to be deprived of its market, as it could possibly be for the consuming country to have its supplies cut off. In point of fact, both countries would necessarily be placed by the interruption in the same condition of distress, since to be in a condition to deal together, both must be producing and both consuming countries. Put the case of two countries, A and B—A producing metal, and B producing clothing materials. A raises and prepares a larger quantity of metals than is needed for its own use, and exports one-half to B, in order to purchase cloth. B manufactures more cloth than is needed for home use, in order to purchase with the surplus, metals of A. Any stoppage of this intercourse must be alike injurious to both. Either they cease respectively to produce metals and cloth, and thus throw many persons in both countries out of work, or they produce more of the respective articles than can be taken off by the ordinary channels, and must accept lower prices, in order to open new channels of demand—an effect which will be hurtful to all persons engaged in the respective branches of industry. It cannot be necessary to pursue this inquiry further, in order to show the mutual dependence that exists between the two countries, and the evils that must follow from any interruption to their accustomed intercourse.

Notwithstanding what has been here said, there are, however, circumstances under which it may be unwise for a country to be willingly dependent upon another for the means of setting its industry in motion, viz., when the causes of interruption that will operate injuriously are beyond the control of the country of supply; and such a case actually exists in respect of the (to us) all-important article, cotton. Great Britain now is, and for many years has been, dependent, not at all upon the good-will of the citizens of the United States to sell their produce to us, but very much upon the influences of the seasons, for the means of setting to work that large proportion of its population which depends upon the cotton manufacture for feeding themselves and their families. In the present condition of our cotton trade, any serious falling-off in the amount of the cotton crop in the United States necessarily abridges the means of labouring among our Lancashire and Lanarkshire spinners and weavers. Such a falling-off is in any year likely to occur. We have felt its influence twice within the last few years, are at this time suffering under it, and are threatened with another adverse season, the effect of which must be to deprive of employment a large proportion of those spinners and weavers whose labour is bestowed in the preparation of coarse goods, it being in that class of manufactures that the rise in price of the raw material first and principally shows its effects.

There is a growing opinion, that now, and for some few years past, we have reached the maximum supply of cotton from the United States, a fact which, should it prove correct, makes it a matter of absolute necessity either to seek for further supplies of the article from other sources, or to find some efficient substitute that shall provide the means of employment for our constantly growing numbers. From the peculiar nature of cotton, and other textile manufactures, it arises that a considerable proportion of the hands which they employ consists of children and young persons, their proportion being, in some branches of the manufacture, as four to one of the adults employed. A part of these young persons betake themselves, as they grow up, to other employments, but, making due allowance for these, it will be found that a continual augmentation of the number of adults seeking employment in our mills is experienced, so that a very few years has hitherto sufficed for the doubling of that number. Hitherto the growth of the trade, and the constantly increasing supply of American cotton, have enabled this doubling to go forward, and there is but small reason to fear that the growth of the trade will in future be checked, unless it be so through a failure in the supply of the raw material. Any serious doubt upon this point may, however, cause great anxiety.

Our supply of cotton has hitherto been drawn in very fluctuating proportions from British India, Brazil, Egypt, our West Indian Colonies, and the United States of America. From this last-named country the quantities were for a long series of years in a continual condition of increase. From Brazil our importations have sensibly lessened, without any reasonable prospect of future increase. From Egypt the quantities fluctuate violently, and depend greatly upon causes not falling within ordinary commercial considerations. In the British West Indies, the cultivation of cotton has for some time ceased to form a regular branch of industry, and it is hardly to be expected that, having thus ceased to be profitable when prices in Europe were uniformly at a higher level than they have been for now a long series of years, the cultivation of cotton, to any important extent, will be resumed in those colonies. From British India the quantities received depend upon a different set of circumstances, but of such a nature as to forbid any very sanguine hope of great and permanent increase in the shipments. That cotton can be, and indeed that it is, produced in great abundance and at a low cost in British India is well known, and that its quality, when carefully collected and free from dirt, is sufficiently good for many, if not for most purposes of manufacture, is true also; that its price in the markets of Europe is uniformly lower than that of the more ordinary kinds of American cotton is owing mainly, if not wholly, to want of care, or of honesty, in those by whom it is packed for shipment, and who manage to forward with it to Europe a large per-centage of dirt and rubbish. This is an evil which it is manifestly within the power of the Indian dealers to remedy, and it is difficult to understand that a view to their own interest has not, long ago, led them to reform their practice in this particular. A want of practicable roads has been alleged as one chief reason why the cotton planters of India cannot compete successfully with those of the United States, but this evil can hardly be said to exist as regards the greater part of the East India cotton which hitherto has been exported to Europe, since it is produced

within a very short distance of shipping ports to which the access is easy. Dr. Forbes Royle, who has deeply investigated all the circumstances attendant upon a supply of cotton from India, and than whom there cannot be a better authority, is of opinion that by bringing the native cultivator in India into nearer connexion with the consumer, through the personal intervention of Europeans, who would purchase from him direct, and ship the produce to Europe, thus rendering unnecessary the intermediate speculators and dealers who now engage in the trade, and who will seek, either fairly or unfairly, to realize profit from their dealings, he (the cultivator) might receive a better price for his cotton, and would thus be induced to bestow greater care in picking and keeping it clean, and would be willing to devote a greater proportion than now of his land and his industry to the production of an article which he could then be certain to convert into the means of support for himself and his family, a result, which, under the existing system, is very far from being the case, so that as a measure of the commonest prudence, or, more correctly speaking, through necessity, he is forced to devote a large part of his land to the production of grain for the consumption of his household.

To realize the benefit thus suggested by Dr. Royle, there needs to be introduced into practice in India a new system, and no one who has any acquaintance with the habits of the people of that country needs to be told, how difficult a matter it must be to accomplish this, or indeed any change among them. While the price of cotton is high, through a partial failure of the crop in America, the consumers in Lancashire might be willing to give encouragement to any properly qualified persons who should proceed to India, with a view to the purchase and exportation thence of cotton in an improved condition, but the arrangements necessary for carrying out such a plan of operations would absorb much time, and, before any result could be attained, the whole state of things might be changed, through the gathering of an abundant crop in the United States, and through the means that would thus be presented of obtaining thence a sufficiency of the raw material, at a moderate price. It must prove, therefore, more or less a hazardous speculation for any one to establish himself in Guzerat, with the object of supplying to any extent the markets of this country with cotton. By degrees, the desired result may possibly be realized, but if the cotton manufacture of England is to continue its usual rate of progress, the pace at which such a reform must proceed would be far too slow for it to exercise any sensible effect upon the condition of our manufacturing population.

Any direct encouragement to increased cultivation on the part of government by means of bounties or differential duties is, of course, quite out of the question.

The crop of cotton in each of the fifteen years from 1834-5 to 1848-9 in the United States, stated in bags, was as follows:—

1834-5 1,254,328	1839-40.... 2,177,835	1844-5 2,394,503
1835-6 1,367,225	1840-1 1,634,945	1845-6 2,100,537
1836-7 1,422,930	1841-2 1,684,211	1846-7 1,778,651
1837-8 1,801,497	1842-3 2,378,875	1847-8 2,347,634
1838-9 1,360,532	1843-4 2,030,409	1848-9 2,728,596

According to the accounts hitherto received, the crop of the season

1849-50 will fall short of that of the preceding season by about 700,000 bags, but will then be full 600,000 bags greater than the average crop of the five years 1834-5 to 1838-9, while it will be fully equal to the average of the following five years, and only 270,000 bags less than the average of the five years from 1844-5 to 1848-9.

The growth of the cotton manufacture in this country will be shown by the following statement of the weight of the raw material used in different years of the present century, viz:—

	lbs.		lbs.		lbs.
1800	56,010,732	1825	228,005,291	1845	721,979,953
1805	59,682,406	1830	263,961,452	1846	442,759,336
1810	132,488,935	1835	363,702,963	1847	474,707,615
1815	99,306,343	1840	592,488,000	1848	713,020,161
1820	151,672,655			1849	775,469,008

The increased consumption of our cotton mills in each decennary period of this century is thus seen to have been as follows:—

			lbs.
		1800.....	56,010,732
	Increase to	1810.....	76,478,203
Further	,,	1820.....	19,183,720
,,	,,	1830.....	112,288,797
,,	,,	1840.....	328,526,548
,,	,,	1849.....	182,981,008
Consumption in 1849			lbs. 775,469,008

It is by no means improbable that the consumption during the last nine years would have gone forward at a constantly accelerated pace, so that it would by this time have gone beyond 1000 millions of pounds weight in the year, but for the check given to it in 1847 and in the present year, through insufficiency in the supply of the raw material. Notwithstanding this check, the growth of the cotton manufacture of England has been great beyond all precedent in analogous cases, and beyond all reasonable calculation, showing the astonishing increase in half a century of 1284 per cent. This increase has been concurrent with, and mainly caused by, a continual reduction in the price of cotton, which of late years has not been more than from one-fifth to one-fourth of the price at the beginning of the century. On the other hand, the continual fall in price has acted as a stimulus on the producers, who have hitherto made up in general by the extent of their cultivation for the diminished price of their crops. To this result there must of course be a limit, and it is more than probable that such a limit, if not already reached, will be so sooner than the desire of mankind for cheap clothing will be satisfied. Cheap as cotton fabrics have of late years become, there can be no doubt that any further sensible diminution of their cost would create a new and very large circle of consumers among those who have hitherto been unable fully to gratify their wants in respect to the use of decent clothing.

The way in which consumption is treading on the heels of production, during a period of comfort for the people arising through cheapness of food, is clearly shown by the fact, that although the importation of cotton into this country in 1849 was the largest ever known, the comparatively short crop of the present season has had the effect of raising the market price of the material more than 55 per cent.

above the prices of this period of 1849, and to an equal extent above the prices of 1846, when the American cotton crop was about equal to the estimate that has been formed for the present season.

To those who reflect seriously upon these facts, it must appear a matter of grave importance how any continued failure of cotton crops is to be met, and not only so, but also how a substitute is to be found for the hitherto constantly increasing amount of those crops, for it will not be enough to provide the same amount of employment as before for our continually growing numbers in a branch of industry, which by its ordinary operations necessarily brings forward those increased numbers. The uneasiness which it is natural to feel under the circumstances here described, has led to the inquiry as diligently and as carefully as opportunity has allowed, whether some substitute or auxiliary may not be called into action which shall meet the evil that threatens us, and this it is suggested may be found in a kindred branch of manufacture—that of flax.

A very few years ago, when first anxiety began to arise concerning the prospects of our cotton manufacture, the resource which has just been named did not present itself. At that time, our linen manufacture had not made the progress by which it is at present marked—a progress proportionally equal to any that has been made at any time in the cotton manufacture.

If we compare the prices of linen in 1832, when the home market was secured to the manufacturer by import duties equal to 40 per cent. on the value, and in which year the bounties which had long been granted on the exportation of British linens finally ceased, with the prices in 1849, we find the following remarkable result:—

	1832.		1849.	
	s. *d.*		*s.* *d.*	
The same quality sold for	1 4	.....	0 8¼	per yard.
,, ,,	1 6	.....	0 9¼	,,
,, ,,	1 8	.....	0 10¼	,,
,, ,,	1 10	.....	0 11¼	,,
,, ,,	2 0	.....	1 0½	,,
,, ,,	2 2	.....	1 2	,,
,, ,,	2 5	.....	1 3½	,,

showing a reduction of cost amounting to nearly fifty per cent.

The making of cambric handkerchiefs in Ireland is quite a modern branch of industry. The following list exhibits the comparative prices per dozen in 1833, 1838, and 1848, of handkerchiefs of the same qualities:—

1833.			1838.			1848.	
s.	*d.*		*s.*	*d.*		*s.*	*d.*
8	3	.....	7	0	.....	2	10
9	3	.....	7	9	.....	3	2
10	3	.....	8	3	.....	3	6
11	6	.....	9	0	.....	4	0
12	9	.....	10	0	.....	4	6
14	3	.....	11	6	.....	5	2
16	3	.....	14	0	.....	6	0
18	9	.....	15	6	.....	7	3
21	3	.....	17	0	.....	8	9
24	0	.....	19	0	.....	10	6
27	6	.....	22	6	.....	12	6
31	0	.....	25	0	.....	15	0
35	0	.....	28	0	.....	18	0

showing a reduction in the cost during 15 years of about 60 per cent., and in the last 10 years of 47 per cent. on the average of all qualities.

During the five years between 1844 and 1849, the reduction in the cost of 5-8 cambric handkerchiefs has been as follows :—

1844.		1849.		1844.		1849.	
s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
14	6	11	0	27	0	21	0
16	0	12	0	29	0	22	6
17	6	13	0	31	0	24	0
19	0	14	3	33	0	25	6
20	6	15	6	35	0	27	6
22	0	16	9	38	0	29	6
23	6	18	0	41	0	32	0
25	0	19	6				

This economy has been mainly effected in the spinning processes. A bundle (60,000 yards) of No. 40's line-yarn, the cost of which in 1839 was 11*s.*, was reduced in 1848 to 4*s.* 3*d.*, or from 2*s.* 2*d.* to 10*d.* per lb.—more than 60 per cent. During the same period, the fall in the price of cotton yarn of about the same quality has not quite amounted to 20 per cent. Since 1848, a rise in the price of flax has occasioned a corresponding advance in the price of yarn, and that which could then be bought for 10*d.* per lb., is now quoted at 12½*d.*

Hitherto we have in this kingdom been greatly dependent upon our foreign importations for supplies of flax, and while the law imposed restrictions upon the importation of grain for human food, there existed a kind of moral impediment in the way of increasing our home growth of articles for any purpose not of equal primary necessity. That impediment is now removed, and there can be no reason given why our fields should not be henceforth used for the production of any article that promises an adequate profit to the farmer. It is especially desirable so to apply the productive power of the soil for the supply of articles as indispensable to the support of millions of our people as corn itself, and an additional inducement to the growth of flax, beyond that offered by other articles, may be found in the fact that to bring it to the same condition as that in which it is usually imported from foreign countries, calls for the employment of a considerable amount of human labour. There is no part of the United Kingdom in which the flax plant cannot be successfully cultivated, and there is hardly any country whence it might not be brought to supply our deficiencies should such arise. It grows and flourishes equally in the climate of Russia and in that of India. In Ireland a somewhat sustained effort has been made by "The Royal Society for the Promotion and Improvement of the Growth of Flax," to induce proprietors in that country to devote a portion of their land to its cultivation, and it is understood that in the present year a larger breadth has been sown with flax-seed in Ireland, than in any former year. Great improvements in the processes employed for dressing the fibre are also now in course of adoption, and it is perhaps not taking too sanguine a view of the result of these efforts to believe, that the reduction in the cost of the material and in the expenses of the processes needful for its manufacture, will, for some time, go forward in at least as satisfactory a degree as we have seen to have been already realized.

We cannot determine the growth of the linen manufacture by the

same test which satisfactorily shows that of the cotton manufacture—viz., the quantity of raw material imported, since a part of the flax—in what proportion there are no means of showing—is produced from our own soil; but it will be evident, from the following figures, that a very rapid extension has been effected.

The quantity of foreign flax imported for use in the United Kingdom in each year, from 1831 to 1849, has been as follows:—

	Cwts.		Cwts.		Cwts.
1831	936,411	1838	1,626,276	1844	1,583,494
1832	982,516	1839	1,223,701	1845	1,418,323
1833	1,129,632	1840	1,253,240	1846	1,147,092
1834	811,722	1841	1,346,843	1847	1,052,089
1835	740,814	1842	1,145,759	1848	1,463,661
1836	1,529,116	1843	1,437,150	1849	1,806,786
1837	1,000,865				

It should not, in any degree, interfere with the prosperity of the present race of cotton manufacturers, if flax were to be substituted in part for the material now employed by them. Changes are, doubtless, necessary, in order to adapt a part of their present machinery for the spinning of flax, but the expense to which the proprietors might thus be subjected, would be well compensated during the first year of short supply of cotton that might arise, by the security that they would feel in the future regularity of their operations, assured, as they then would be, against the irregularity of seasons, or those disturbances which have arisen, and which always may arise, to disarrange their operations and to interfere with the regular employment of their hands. It would not appear difficult so to order the arrangements of a spinning-mill or a weaving-shed, that both flax and cotton might be included within its operations, and that the preponderance in those operations might be given, from time to time, either to the one or to the other, according to the capabilities of the markets of supply on the one hand, and the requirements of the markets of consumption on the other.

Goods are now woven in which both materials are employed. This description of cloth was produced in the looms of Flanders more than 400 years ago. Two centuries later, such mixed goods were made in this country, the cotton employed in the same being imported from Cyprus and Smyrna; it was not indeed till 1772, only seventy-eight years ago, that goods were made in England, the whole material of which was cotton. The progressive reduction in price of this material, so much greater than that which, until a comparatively recent period, has attended manufactures of flax, has hitherto caused the wonderful extension that we have witnessed in our cotton trade, an extension which has added most materially to the comfort of the labouring classes in this and other countries. So long as we could look with any degree of security to the continuance of this state of things, there could be no good reason for suggesting any change in our manufacturing arrangements; but now that a check seems to be given to the progress of the cotton trade, through uncertainty in the amount of supply obtainable, whether by reason of untoward seasons, or through the employment of constantly greater quantities of the material in the principal country of production, the old state of things is so far changed as to render it a matter of national importance to provide the means for meeting the

difficulties thus presented, and it may be considered a very happy circumstance that those means are not far to seek, but that, through the adoption of some previous changes in the most strictly analogous branch of industry, the adoption of a remedy is rendered comparatively easy.

It must be satisfactory for us, in a high degree, to know that the reductions mentioned in the cost of our linen manufactures have not been accompanied with any distress on the part of the spinners and weavers, nor of loss among the manufacturers, but, on the contrary, that during the period in question, the linen trade has been extended to a degree unexampled in its previous history, affording greater and more profitable employment to every one engaged in it. An accurate judgment may be formed concerning the progress of the trade by ascertaining the extent at different periods of our exports. In 1832 we sent to our colonies and to foreign countries, 49,531,057 yards of linen, valued at 1,716,084*l.* In 1838, our exports reached 77,195,894 yards, valued at 2,717,979*l.*; in 1844, we exported 91,283,754 yards, valued at 2,801,609*l.*; and in 1849, the exports reached 106,889,558 yards, while the declared value amounted to 3,073,903*l.* During the same period, our shipments to foreign countries of linen-yarn have advanced in value from 8,705*l.* in 1832, to 737,650*l.* in 1849.

It must not for a moment be imagined that this subject is brought forward with any desire of fostering or encouraging one branch of manufacture at the expense of any other. The object in view is, in fact, the very opposite to such a desire, and springs from the wish to preserve, in its condition of prosperity and progress, one of the chief sources of employment for our continually growing numbers, without in any way interfering with any other branch of industry. It is hoped that the means here indicated may be found efficacious for meeting the difficulties that now threaten to obstruct the course of the cotton manufacture, without interfering with, or creating difficulties, for the linen manufacture, by transferring in part the labour now bestowed upon one material to the conversion of the other. This could not be accomplished if the production of flax were, like that of cotton, in any great degree dependent upon the accidents of the seasons in one particular country, a disadvantage from which the cultivation of flax has always been free, while of late, the obstacle which, morally at least, stood in the way of its extensive production in the United Kingdom, has been made to disappear from our statute-book. The adoption of flax as an auxiliary by our cotton manufacturers could not work any injury to the linen trade, since it would only make good the deficiency, if and as it should arise, in the production of cotton fabrics.

Mortality of the Provident Classes in this Country and on the Continent.

By F. G. P. Neison, Esq.

[Read before the Statistical Section of the British Association at Edinburgh, 5th August, 1850.]

In the present Contribution to "Vital Statistics," it is intended to exhibit the rate of Mortality which prevails among the Wealthy, the Middle, and the Provident Classes of this Country and of the Continent.

England and Wales are the only portions of the United Kingdom in which public mortuary registers are kept, and, consequently, in which the rate of mortality of the whole population can be accurately measured. In the other divisions of the kingdom, the rate of mortality is known only inferentially, and not by direct observation, and nowhere do the public records afford the means by which to determine the duration of life in particular classes of the community. There are, however, other sources from which much information may be derived.

In the year 1843, a report was made, by a committee of actuaries, on the mortality among the persons assured by seventeen of the principal assurance companies of this country, and these persons may be fairly considered to belong to the middle and upper classes of society; and at various periods since the year 1824, inquiries have been made into the rate of mortality among the members of friendly societies, including the more industrious and prudential of the working and the labouring portion of the people. One important result derived from these investigations is, that while the mortuary registers show a certain rate of mortality for the whole population of England and Wales, the evidence furnished by the facts constituting the other body of information clearly proves the mortality of the middle and upper classes to be above, and that of the industrious working classes to be below, the ratio for the country generally. This conclusion forms an important consideration in all sanitary inquiries, and, by an obvious inference, determines in what class or section of the people the excessive rate of mortality prevails. For other reasons, however, it is a subject of first importance to understand clearly the rate of mortality among the middle and upper classes.

The *Journal of the Statistical Society* contains a valuable body of evidence on this question, which goes to prove, that among the peerage, the country gentry, and the professional classes, the rate of mortality is higher than that of the country generally, and, as already remarked, the report by the committee of actuaries shows, that among the lives assured by the public companies of this country, the mortality is also not less than that of the general population.

In support of the results derived from this latter body of facts, there is abundant collateral proof; but it has been thought desirable to test them, if possible, by facts originating in quite an independent source, and, with this view, an analysis has been made of the experience of some of the life assurance offices in Germany, one of which, the Gotha Society, the largest in the world, had, in the 21 years ending January 1850, assured 22,063 lives, and there were, in the beginning of this year, subsisting assurances on no less than 15,471 of these lives.

From the following tables, it will be seen that a very elaborate investigation has been made of the facts presented, and that some of the combinations formed are of a novel character in vital statistics; but a very few observations will, however, suffice to bring the results under the criticism of the Section, as the various tables and abstracts sufficiently explain themselves. It should be stated that the information is collected from the very admirable annual reports of the Gotha Life Office, and that wherever tabulated results were furnished in these documents, their accuracy has been tested by a reconstruction of the figures from the original abstracts.

The following table exhibits the rate of mortality in this Society for each of the eight years 1842-49, and the difference for each quinquennial term of life between the actual rate of mortality and that expected according to the data on which the rates or scale of premiums in use by the Society are based, namely, a rate of mortality assimilating closely to the "Equitable Experience."

TABLE I.

Ages.	1842.			1843.			1844.			1845.		
	Persons	Deaths	Expected.	Persons	Deaths	Expected.	Persons	Deaths	Expected.	Persons	Deaths	Expected.
15—25 ...	114	...	0·72	116	...	0·72	119	1	0·79	116	...	0·76
26—30 ...	491	4	4·01	498	4	4·06	513	3	4·29	553	3	4·58
31—35 ...	1,277	7	12·49	1,280	11	12·48	1,335	6	13·09	1,323	9	13·02
36—40 ...	2,180	26	24·41	2,190	19	24·54	2,180	15	24·46	2,185	14	24·72
41—45 ...	2,335	27	28·15	2,505	26	30·04	2,620	18	31·66	2,779	22	33·75
46—50 ...	1,920	28	29·02	2,073	32	31·03	2,246	36	33·66	2,362	40	35·85
51—55 ...	1,513	24	29·82	1,644	33	32·11	1,753	30	34·48	1,865	31	36·86
56—60 ...	1,068	31	26·82	1,162	32	29·25	1,251	24	31·87	1,309	44	33·28
61—65 ...	612	26	20·00	652	18	21·58	713	34	22·96	806	28	26·36
66—70 ...	301	19	13·13	342	21	15·05	376	21	16·73	406	33	18·05
71—85 ...	77	6	5·36	104	7	7·69	143	12	10·82	181	14	13·90
Total ...	11,888	198	193·93	12,572	203	208·55	13,249	200	224·81	13,885	238	241·13

	1846.			1847.			1848.			1849.		
15—25 ...	116	...	0·72	129	1	0·76	106	...	0·62	93	...	0·60
26—30 ...	569	4	4·71	613	6	4·97	557	3	4·57	559	2	4·67
31—35 ...	1,334	11	13·08	1,381	9	13·53	1,376	17	13·46	1,358	16	13·25
36—40 ...	2,233	27	25·09	2,248	26	25·13	2,182	31	24·69	2,207	22	24·87
41—45 ...	2,851	24	34·53	2,922	29	35·52	2,887	40	35·20	2,822	32	34·34
46—50 ...	2,534	27	38·30	2,726	49	40·94	2,852	38	43·66	2,944	31	44·82
51—55 ...	2,007	29	39·55	2,131	43	42·26	2,217	45	44·20	2,357	34	46·75
56—60 ...	1,373	29	34·99	1,522	44	38·44	1,605	45	40·84	1,713	64	43·42
61—65 ...	883	29	28·83	964	38	31·82	1,053	55	34·79	1,100	56	36·22
66—70 ...	459	30	20·47	473	24	21·36	523	32	23·79	553	46	24·95
71—85 ...	205	19	16·76	252	24	20·80	294	33	24·45	341	34	28·39
Total ...	14,564	229	257·03	15,361	293	275·53	15,652	339	290·27	16,047	337	302·28

An inspection of the preceding table will show, that in four out of the eight years, there has been experienced a greater number of deaths than expected, according to the tables of the Society, namely, in the years 1842, 1847, 1848, and 1849; and, according to the following abstract, it will be seen that the excess of deaths for the whole of the eight years has been 43·47, being about 2·180 per cent. on the expected mortality.

ABSTRACT A.

Mortality during the Years 1842—1849.

Ages.	Number of Persons Assured.	Actual Deaths.	Sum of Actual Deaths.	Expected Deaths.	Sum of Expected Deaths.
15—25.....	909	2	....	5·7	....
26—30.....	4,353	29	31	35·9	41·6
31—35.....	10,664	86	117	104·4	146·0
36—40.....	17,605	180	297	197·9	343·9
41—45.....	21,721	218	515	263·2	607·1
46—50.....	19,657	281	796	297·3	904·4
51—55.....	15,487	269	1,065	306·0	1210·4
56—60.....	11,003	313	1,378	278·9	1489·3
61—65.....	6,789	284	1,662	222·6	1711·9
66—70.....	3,433	226	1,888	153·5	1865·4
71—84.....	1,597	149	2,037	128·2	1993·6
	113,218	2,037		1993·6	

It is worthy of remark, at this point of the inquiry, that, under the age of 55, the actual rate of mortality is uniformly less than the expected rate, averaging about 12 per cent. less than the rate calculated upon; but, on the other hand, the actual mortality above the age of 55 exceeds the expected mortality about 24 per cent. A comparison of the columns headed "persons assured," for each of the nine years represented in Table I., with the figures in the fourth column of Table XV, following, will show that the number of persons given in Table I., for each year, is the gross number assured, and not the number exposed to the risk of a whole year's mortality; it would, therefore, lead to a false estimate of the mortality, were it to be measured with reference to the numbers in the columns headed "persons assured;" but this has evidently not been done in the determination of the numbers in the columns headed "expected deaths;" they are derived from the correct number exposed to a whole year's risk of mortality.

It will be observed that the excess of 43 deaths over the expected number in Table I. and Abstract A, preceding, is due chiefly to the years 1848-9, in the former year, the difference being about 49, and in the latter, 35 deaths, the united difference being nearly double that of the gross difference for the eight years under review; it is, therefore, obvious that this result depends on some temporary cause, namely, epidemics prevalent in those years, as will be hereafter seen.

If reference be now made to Table II., which gives the history of the 1285 lives assured in the first year of the Society's existence, it will be found that, at the end of the year 1838, there had been 196 deaths, the policies on the lives of 124 had lapsed, and 965 persons still remained assured, irrespective of all those assuring subsequent to the year 1829. It will be further seen that the actual number of deaths is almost identical with the number expected, according to the data on which the Society's calculations are based, and which corresponds very closely with the rate of mortality observed among assured lives generally in this country. It will be further seen that,

unless at the quinquennial term of life, 56–60, at which the numbers assured are very small, and therefore subject to fluctuation, there is no very important difference between the actual and expected rate of mortality.

TABLE II.

Ages.	Number of Persons Assured in 1829.	Deaths during 1829—1838.				Number of Lives upon which Policies have Lapsed.	Number of Persons subsisting at the end of 1838.
		Expected.	Sum of Expected.	Actual.	Sum of Actual.		
16—25....	19	1·3	....	1	....	4	14
26—30....	85	7·1	8·4	5	6	19	61
31—35....	189	18·7	27·1	15	21	27	147
36—40....	276	32·5	59·6	27	48	18	231
41—45....	254	34·8	94·4	40	88	20	194
46—50....	184	31·9	126·3	32	120	19	133
51—55....	160	35·5	161·8	33	153	12	115
56—60....	97	26·5	188·3	36	189	5	56
61—65....	21	7·7	196·0	7	196	....	14
	1,285	196·0		196		124	965

The following table (III) exhibits the rate of mortality among the members of the Society for the twenty-one years 1829-49; and it will be seen, that while the expected mortality was 3193·83, the actual deaths have been 3,144, falling short of the expected mortality by about 50 deaths, or 1·560 per cent. on the expected mortality. It will also be observed, that in this, as in Abstract A, the actual exceeds the expected mortality by 19·3 per cent. above the age of 55, but is less under that age by 12·7 per cent. A comparison of the facts presented in this table, with those in Table II. and Abstract A, shows, in a remarkable degree, the amount of deterioration which takes place in the health of the assured after the expiring of a few years from the date of admission. In Table III., the actual number of deaths falls short of the number expected by the tables of the Society about 1·560 per cent., but in Abstract A, the actual mortality exceeds the expected by 2·180 per cent. The former body of facts embraces all the members of the Society, not only those originally admitted, but also those recently enrolled; and while it includes the mortality of the older class of members long subsequent to their admission, it also contains the mortality in the early years of admission in the same class, and, at the same time, the mortality of those persons but recently admitted. On the other hand, the latter body of facts (Abstract A), although it contains the mortality of members recently admitted, or those entering the Society subsequent to the year 1841, yet it does not contain the mortality for the older class of members for any of the years preceding 1842; and although, as already remarked, this excess of mortality may be partly due to the epidemics of 1848-9, still it is obvious that the increased mortality is also to some extent owing to the exclusion of the experience of the first fourteen years of the older class of members. That this must be the case, is further evident, from a consideration of the results in Table II., which must be regarded as intermediate

between the two other groups of facts just alluded to, as it is free from the admixture of the recently-admitted members with the older, all having been admitted in the year 1829; and it will be observed, that the actual number of deaths is almost identical with that expected by the tables of the Society; while also, in respect to Table II., it will be observed that there is much greater uniformity in the actual and expected deaths at the different terms of life than in either Abstract A or Table III., and this result is consistent with the exclusion of the new admissions, chiefly taking place at the younger terms of life, in the two other classes of facts.

TABLE III.

Mortality during the Years 1829—1849.

Ages.	Number of Persons Assured.	Actual Deaths.	Sum of Actual Deaths.	Expected Deaths.	Sum of Expected Deaths.
15—25.....	1,931	8	....	12·0	....
26—30.....	9,199	71	79	73·8	85·8
31—35.....	22,490	189	268	214·6	300·4
36—40.....	33,928	304	572	373·1	673·5
41—45.....	37,228	356	928	442·0	1115·5
46—50.....	32,362	440	1,368	481·5	1597·0
51—55.....	25,016	450	1,818	485·9	2082·9
56—60.....	17,618	481	2,299	440·3	2523·2
61—65.....	10,370	412	2,711	334·8	2858·0
66—70.....	4,477	271	2,982	198·6	3056·6
71—84.....	1,734	162	3,144	137·3	3193·9
	196,353	3,144		3193·9	

In order to determine the relation between the actual rate of mortality prevailing among the members of the Gotha Life Society and that of other classes of lives, it is necessary, in the first place, to ascertain the number of persons exposed to the risk of a whole year's mortality at the different terms of life, and this may be easily done by the following formula, in which—

a = the total number of persons entering the Society during the whole 21 years, as given in column 3, Table XV.

b = the total number of persons on whose lives policies have lapsed from other causes than death, during the same period of years, as given in column 5, Table XV.

c = the gross number of persons assured at one time or another during the same 21 years, as set forth in column 2, Table III., for the same terms of life at which members enter or retire from the Society; and, therefore,

$$\frac{\frac{a+b}{2} \cdot 100}{c} = \text{the quantity to be deducted from column 2,}$$

Table III., for the same period of life, in order to determine the gross number exposed to the risk of a whole year's mortality. But this quantity cannot be applied as an average ratio to each term of life, as the admissions and demissions are not uniform over each term or period

of life in the table. Let, therefore, the figures in columns 2 and 7 of Table II. represent the correct ratio of persons entering the Society and also withdrawing, from all causes, death excepted; also let

d = the total of the numbers in columns 2 and 7 for every term of life in Table II.;

e = the sum of the numbers in the two columns 2 and 7 for any given term of life; and

n = the number of the terms of life at which members enter and withdraw; then

$$\lambda x = \lambda e + \lambda \left(\frac{\frac{a+b}{2} \cdot 100}{c} \cdot n \right) - \lambda d.$$ And if

f = the quantity at any particular term of life in Table III.; then will

$f \cdot (100 - x)$ = the number forming the second column of the following table.

TABLE IV.

Ages.	Number exposed to the risk of Mortality for a whole Year.	Number of Deaths that would have happened according to the Mortality of England and Wales. Males.	Sum of the Deaths.	Actual Deaths in the Society.	Sum of Actual Deaths.
15—25.....	1,912	15·6	....	8	....
26—30.....	8,788	87·7	103·3	71	79
31—35.....	20,403	216·9	320·2	189	268
36—40.....	29,642	343·0	663·2	304	572
41—45.....	32,846	433·2	1096·4	366	928
46—50.....	29,540	460·8	1557·2	440	1,368
51—55.....	23,420	453·2	2010·4	450	1,818
56—60.....	16,846	426·0	2436·4	481	2,299
61—65.....	10,276	357·0	2793·4	412	2,711
66—70.....	4,477	221·5	3014·9	271	2,982
71—84.....	1,734	181·8	3196·7	162	3,144
	179,884	3196·7		3,144	

Column 3 of the preceding table shows, that if the rate of mortality in the Society had been the same as among the male population of England and Wales, the total number of deaths would have been 3196·59, while, according to column 5 of Table III., the expected mortality by the tables of the Society was 3,194, and, as in column 5 of the present table, the actual mortality had been 3,144. It is therefore evident that the average rate of mortality for the whole population of this country does not, for the whole term of life under observation in Table IV., differ in any important degree from the rate assumed for the basis of the Society's calculations; and it is further evident from a comparison of the last column of Table III., with columns 4 and 6 of Table IV., that the rate of mortality among the general population of England and Wales approximates nearer to the actual rate of mortality

experienced by the Society than the rate assumed in the construction of the Society's tables.

In Table V. will be found the rate of mortality according to various series of observations. The results in column 2 are deduced from columns 2 and 5 of Table IV., and, therefore, represent the rate of mortality experienced in the Gotha Life Office. And it will be seen, that throughout the whole of life, the mortality is almost always less than among the peerage or the males of the government annuitants, and not differing widely from the results for the whole male population of England and Wales, and those for the lives of the assurance societies in England, but the mortality is much above that experienced by the members generally of friendly societies in England and Wales. A consideration of the peculiar features and constitution of those humble provident institutions, will fully explain the reasons of this increased longevity among the industrious and provident portion of the working classes of this country; and those desiring to enter fully into this part of the question, will find it treated of at length in "Contributions to Vital Statistics." Column 4 in the following table represents the rate of mortality as observed among the male members generally of friendly societies throughout England and Wales; but if reference be made to

TABLE V.

Ages.	Rate of Mortality per Cent. according to the					
	Gotha Life Office.	England and Wales. Males. Whole Population.	Friendly Societies. Rural, Town, and City Districts. England and Wales. Males.	Peerage.	Government Annuitants. Males.	Assurance Societies in England.
15—25....	·418	·815	·679	·507	1·37	·738
26—30 ...	·808	·998	·732	·788	1·38	·814
31—35....	·926	1·063	·798	·949	1·18	·892
36—40....	1·026	1·157	·887	1·130	1·40	·991
41—45....	1·084	1·319	1·038	1·533	1·40	1·125
46—50....	1·490	1·560	1·281	2·118	1·49	1·426
51—55....	1·921	1·935	1·696	2·581	2·32	1·909
56—60....	2·855	2·529	2·244	3·212	2·92	2·639
61—65....	4·009	3·474	3·030	4·322	4·08	3·784
66—70....	6·053	4·947	4·614	5·764	6·17	5·563
71—84....	9·343	10·482	8·584	8·155	11·43	11·147

Appendix A of the Report of the Select Committee of the House of Lords appointed to consider certain matters connected with Provident Associations, session 1847-8, paper No. 126, some interesting examples will be found of remarkable differences in the rates of mortality and sickness in those societies. In a very able paper by Mr. Farr, in the second edition of "M'Culloch's Statistics of the British Empire," it is stated that there is reason to believe that further inquiries will show that not only sickness, but mortality, will increase in friendly societies generally; and the results of a recent investigation among the members of Odd Fellow Societies appear to support this opinion, in so far

as respects mortality. Recently, a careful examination was made into the rate of mortality among the members of one of the learned societies of the metropolis, composed exclusively of the members of the medical profession, and the results are strikingly corroborative of the general principle which seems to regulate the mortality of other classes, namely, that the humble but industrious working classes, whose prudential habits lead them to become members of these societies, are subject to a less rate of mortality than any other, and that the higher the class of society over which the observations extend, until the peerage, or highest class of all, is observed, in which there is less of the regular and healthful daily exercise essential to the condition of the industrious workman, the greater the rate of mortality; and for intermediate classes, a varying degree of mortality is observable, following pretty closely the scale of their position in social rank.

The results of this inquiry will be found in detail in the following table.

The first column represents the years of membership.

The second column shows the number of members who have been 1, 2 3, 4, &c., &c., years connected with the Society, and the other columns sufficiently explain themselves.

It thus appears, that of the 684 members elected, 1 died in the first year of membership, and 15 were alive and under observation, being in the first year of membership. Again, 668 entered on the second year of membership; 2 died in that year, 10 withdrew, from various causes, and 22 are alive who are members of not more than two years' standing. In like mannner, 4 entered on the forty-second year of membership; 1 died in that year, and 1 of them remained under observation and alive as a member of forty-two years' standing; and, likewise, of the 2 members who entered on the forty-third year of membership, 1 died in that year, and the other passed on to the forty-fourth year of membership, and died. It hence appears that the whole 684 members elected have passed through 8,316 years of observation, or about 12 years to each member.

Column 8 shows the number of complete years to which the members were exposed to the risk of mortality; and an inspection of the last column shows the rate of mortality to which the members are subject for the different periods of membership, the average rate of mortality being 1·225 per cent.; but it will be seen, that as the period of membership increases, or, in other words, as the age of the members advances, there is a marked increase in the rate of mortality.

Assuming the average age of admission of members to range from 25 to 35 years of age, although it may perhaps be more strictly stated to vary from 25 to 30, an inspection of the following figures will show, that at the younger ages, the mortality is much under the average of the population generally at the same ages; but at the older and more advanced periods of life, the mortality is greater.

TABLE VI.

Years in the Society.	Number under Observation in each Year.	Died.	Discontinued, Resigned, Ceased to Pay, and Expelled.	Alive.	Total gone off or Discontinued.	Half of Discontinued.	Number Exposed to Risk.	Mortality per Cent.
1.....	684	1	....	15	16	....	342	
2.....	668	2	10	22	34	5	663	0·409
3.....	634	2	25	25	52	12·5	621·5	
4.....	582	4	21	19	44	10·5	571·5	
5.....	538	7	20	12	39	10	528	
6.....	499	3	25	24	52	12·5	486·5	
7.....	447	1	36	14	51	18	429	0·639
8.....	396	3	15	15	33	7·5	388·5	
9	363	....	9	22	31	4·5	358·5	
10.....	332	2	13	15	30	6·5	325·5	
11.....	302	5	6	19	30	3	299	
12.....	272	6	12	6	24	6	266	1·477
13.....	248	2	10	14	26	5	243	
14.....	222	5	4	11	20	2	220	
15.....	202	5	11	13	29	5·5	196·5	
16.....	173	1	8	2	11	4	169	
17.....	162	3	7	3	13	3·5	158·5	1·355
18.....	149	....	4	3	7	2	147	
19.....	142	2	3	....	5	1·5	140·5	
20.....	137	4	8	2	14	4	133	
21.....	123	1	4	4	9	2	121	
22.....	114	....	1	3	4	·5	113·5	1·383
23.....	110	3	2	3	8	1	109	
24.....	102	....	....	1	1	....	102	
25.....	101	2	2	1	5	1	100	
26.....	96	6	2	6	14	1	95	
27.....	82	6	1	2	9	·5	81·5	4·146
28.....	73	1	5	2	8	2·5	70·5	
29.....	65	2	4	2	8	2	63	
30.....	57	5	2	2	9	1	56	
31.....	48	....	4	7	11	2	46	
32.....	37	....	1	4	5	·5	36·5	3·500
33.....	32	1	....	1	2	....	32	
34.....	30	1	1	1	3	·5	29·5	
35.....	27	2	....	1	3	....	27	
36.....	24	4	3	7	14	1·5	22·5	
37.....	10	....	....	2	2	....	10	8·108
38.....	8	....	1	....	1	·5	7·5	
39.....	7	....	....	1	1	....	7	
40.....	6	....	....	1	1	....	6	
41.....	5	1	....	....	1	....	5	
42.....	4	1	....	1	2	....	4	2·222
43.....	2	1	....	....	1	....	2	
44.....	1	1	....	....	1	....	1	
	8,316	96	280	308	684	140·0	7834·0	1·2225

The following abstract of the preceding table will exhibit the results in a more distinct form :—

ABSTRACT B.

Year of Membership.	Number exposed to risk.	Died.	Mortality per Cent.	Mortality per Cent. England and Wales.	Average Age.
1— 4.....	2198·0	9	0·409	·998	25—30
5— 9.....	2190·5	14	0·639	1·063	31—35
10—14.....	1353·5	20	1·477	1·157	36—40
15—19.....	811·5	11	1·355	1·319	41—45
20—24.....	578·5	8	1·383	1·560	46—50
25—29.....	410·0	17	4·146	1·935	51—55
30—34.....	200·0	7	3·500	2·529	56—60
35—39.....	74·0	6	8·108	3·474	61—65
40—44.....	18·0	4	2·222	4·947	66—70
	7834·0	96	1·225		

For the whole period under observation, it is therefore evident that the rate of mortality is somewhat higher than among the general population of England and Wales.

From the facts brought forward, it therefore appears that the duration of life in the German States of Europe, among the higher provident classes, embracing the principles of life assurance, is fully equal to that among the like classes in this country, and the value of life amongst those classes approximates closely to the rate of mortality for the general population of England and Wales; but among the humbler provident classes who enrol themselves members of friendly societies of this country, there is experienced a prolonged duration of life above all others.

That an idea may be formed of how far the results in Tables I., II., III., IV., and the second column of Table V., may be indicative of the state of health of the populations of the different German States, it may be important to show the number of persons assured for the middle of the period of the 21 years 1829-49, namely, at the end of the year 1838, in each of those districts.

District.	Persons.	In every 100,000 Inhabitants.	District.	Persons.	In every 100,000 Inhabitants.
Ducal and Grand Ducal Saxon Territories	753	118	Brought forward....	7,466	
Free Cities	188	62	Oldenburg	74	29
Brunswick	123	49	Hessen Darmstadt.....	200	28
Principalities, Lippe and Waldeck.....	73	46	Mecklenburg, Schwerin, and Strelitz	151	27
Prussia.....	4,267	41	Hohenzollern-Hechingen and Sigmaringen	10	16
Hessen Cassel	289	41	Bavaria	584	14
Hanover	625	37	Baden.....	168	14
Principalities, Schwarzburg, Anhalt, and Reuss.....	129	36	Nassau	41	11
Würtemburg	515	32	Danish German Territories.....	33	8
Kingdom of Saxony.....	504	31	German Switzerland	52	4
Carried forward....	7,466			8,779	

The greatest number of the assurers, nearly 49 per cent. of the whole, are in Prussia; but the States having the greatest proportion of its population assured, are the Ducal and Grand Ducal Saxon territories; and those having the least proportion assured, are the Danish and Swiss German territories.

With the view to determine whether any and what law prevailed in relation to the period which has elapsed from the date of assuring to the date of death among those persons dying in the years 1839-49, distinguishing the age at the time of being assured, a detailed abstract has been made of each policy, classifying those together of the same age at the date of assuring, and at the same time setting forth the period elapsing until the day of death, and thence arriving at the average period which elapsed from taking out their policies till the day of death, for those entering the Society at different ages. The following table shows the results arrived at :—

TABLE VII.

Period elapsed from the date of Assuring, till Death, of those Dying among the Assured, during the Years 1839-49.

Age at which the Assurances were Effected.	No. of Deaths.	Duration of Life.		Duration of Life to each Person.		Age at which the Assurances were Effected.	No. of Deaths.	Duration of Life.		Duration of Life to each Person.	
		Years.	Mths.	Years.	Months.			Years.	Mths.	Years.	Months.
15....	2	12	11	6	6	42....	74	725	9	9	10
16....	....	....	....	....	....	43....	83	843	9	10	2
17....	1	5	5	5	5	44....	74	679	8	9	2
18....	....	....	....	....	....	45...	68	639	2	9	1
19....	1	7	8	7	8	46....	69	681	4	9	10
20....	3	14	8	4	11	47....	81	785	9	9	8
21....	1	7	2	7	2	48....	83	766	8	9	3
22....	4	43	7	10	11	49....	87	845	3	9	9
23....	5	40	....	8	....	50....	89	864	2	9	8
24....	14	95	6	6	10	51....	73	720	2	9	10
25....	20	161	....	8	1	52....	72	635	6	8	10
26....	16	95	2	6	....	53....	87	852	11	9	10
27....	29	266	11	9	3	54....	72	804	....	11	2
28....	48	316	3	6	7	55....	64	656	9	10	3
29....	51	386	3	7	7	56....	76	708	4	9	4
30....	49	420	....	8	7	57....	49	422	2	8	7
31....	52	411	5	7	11	58....	81	825	3	10	2
32....	70	616	11	8	10	59....	72	574	11	8	....
33....	78	567	....	7	3	60....	28	307	1	11	....
34....	62	531	8	8	7	61....	14	177	....	12	8
35....	93	727	1	7	10	62....	11	99	9	9	1
36....	66	533	8	8	1	63....	8	67	....	8	5
37....	78	742	1	9	6	64....	7	59	4	8	6
38....	75	655	5	8	9	65....	3	29	4	9	9
39....	72	552	11	7	8	66....	2	13	3	6	7
40....	81	863	6	10	8	67....	2	17	5	8	8
41....	71	702	11	9	11						

No very distinct or obvious difference is here observable in the various class of results, and attention is therefore directed to the following abstract :—

ABSTRACT C.

Period elapsed from the date of Assuring, till Death, of those Dying among the Assured, during the Years 1839-49.

Age.	No.	Duration of Life.		Duration of Life to each Person.		Duration of Life.		Duration of Life to each Person.	
		Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months
15—19....	4	26	....	6	6	26	....	6	6
20—24....	27	200	11	7	5	1,246	6	6	6
25—29....	164	1,225	7	7	6				
30—34....	311	2,547	....	8	2	5,758	2	8	4
35—39....	384	3,211	2	8	4				
40—44....	383	3,815	7	10	....	7,533	9	9	9
45—49....	388	3,718	2	9	7				
50—54....	393	3,876	9	9	11	7,064	2	9	8
55—59....	342	3,187	5	9	4				
60—64....	68	710	2	10	5	770	2	10	3
65—67....	7	60	....	8	7				
Total....	2,471	22,778	9	9	3				

In which it will be seen, contrary to what would generally be expected, that the period which has elapsed from the date of the policies to the date of death is less at the younger than the older ages, so that, if such a law were found generally to prevail, it would follow that a Life Office would find the deaths taking place among the younger lives more immediate than among the older class of lives. Whether this unexpected and apparently anomalous result may arise from the fact that, at the earlier ages, the deaths take place from acute and rapidly-fatal diseases, and at the advanced periods of life, they happen from chronic and lingering causes, is not clearly borne out by the present body of facts; but that such is very probably the case,

Age.	Per Centage of Members Sick during each Year.	Ratio of Sick Members to every 100 not Sick in every Year.	Mortality per Cent. among those Actually Sick.	Sickness per Annum among those Actually Sick.	Total Amount of Sickness to each Death.
11—15....	21·9565	28·1337	·9901	4·1231	416·4290
16—20....	22·0743	28·3273	2·8571	3·5887	125·6032
21—25....	22·0386	28·2686	3·0539	3·8518	126·1271
26—30....	21·6997	27·7134	3·3271	4·1921	125·9977
31—35....	21·0147	26·6058	3·7592	4·3585	115·9411
36—40....	21·5471	27·4650	4·0686	4·9463	121·5732
41—45....	22·9858	29·8463	4·5306	5·9418	131·1468
46—50....	24·6042	32·6333	5·1657	6·8556	132·7123
51—55....	27·6422	38·2022	6·2401	8·5104	136·3839
56—60....	30·2424	43·3535	7·2732	10·9261	150·2235
61—65....	35·5676	55·2015	8·6163	15·1975	176·3808
66—70....	46·8493	88·1443	9·6004	24·2217	252·2988
71—75....	58·3750	140·2400	12·1306	32·6275	268·9679
76—80....	73·5916	278·6667	11·3636	36·2367	318·8876
81—85....	74·4624	291·5790	18·4116	37·7633	205·1064
86—90....	79·4872	387·5000	17·2043	41·0829	238·7943
91—95....	50·0000	100·0000	....	39·2450	....

will appear from a consideration of the preceding figures, derived some time ago from the experience of friendly societies in Scotland, from which very accurate and interesting returns were received and carefully analysed.

It is therefore evident that, from the younger to the more advanced ages, there is, among all classes, a uniform increasing rate of sickness to each death. At the term of life 31-5, there is 116 weeks' sickness to each death, and the rate goes on increasing to the period 76-80, in which the amount of sickness is 319 weeks to each death.

However, the preceding simply shows the average amount of sickness among all the members of a society to each death taking place among the same members at different ages, and the results are not fairly applicable as illustrative of the principle or law manifested in Abstract C, in which it would appear that the period which has elapsed between the date of effecting policies and the date of death of the persons assured thereunder, is less at the younger than at the older ages. For to determine whether this law has any connexion with the more acute forms of disease peculiar to younger ages, the sickness resulting ending in death, or among those finally dying, at the given terms of life under consideration, should only be measured; but it may be interesting, and also important, to show the relation in respect to the duration of sickness not ending in death, as well as that proving fatal.

In the following abstract will be found the results of 5,640 attacks of sickness, resulting in recovery, from which it appears that the average duration of each attack is 8·636 weeks, but it is necessary to observe how very much the duration of sickness depends on the age of the persons affected; under the age of 35, the average duration of each attack is about 4·372 weeks; from that to the age of 50, each attack lasts about 5·131 weeks; in the subsequent period of ten years, the duration of each attack is 11·717 weeks; and beyond that age (60), it will be seen that sickness becomes very protracted.

ABSTRACT D.

Duration of Sickness ending in Recovery.

Ages.	Attacks.	Sickness.	Average Duration of each Attack.
11—15.....	12	39·428	3·286
16—20.....	106	592·143	5·586
21—25.....	587	2399·714	4·088
26—30.....	900	4363·000	4·848
31—35.....	955	3798·857	3·978
36—40.....	772	3870·571	5·014
41—45.....	678	3598·286	5·307
46—50.....	433	2192·857	5·064
51—55.....	415	4794·428	11·553
55—60.....	364	4333·000	11·904
61—65.....	246	5286·286	21·489
66—70.....	88	4219·143	47·945
71—75.....	68	5713·571	84·023
76—80.....	14	2862·286	204·449
81—85.....	2	642·857	321·428
	5,640	48706·427	8·636

It should be clearly kept in view, that the abstract just given represents such sickness only as ended in the recovery of the members; but in the following abstract is given the results of 1,012 attacks of sickness among 437 persons, whose deaths took place at the terms of life represented in the table. The figures given in columns 8, 9, and 10, of this abstract, differ in a remarkable manner from the results in Abstract D, at corresponding ages.

ABSTRACT E.

Duration of Sickness ending in Death.

Ages.	*a.* Total Amount of Sickness.	*b.* Amount of Sickness immediately before Death.	*a*−*b.* Amount *not* ending in Death of those afterwards Dying.	*c.* Attacks.	*d.* Persons.	*c*−*d.* Attacks not ending in Death of those afterwards Dying.	Average duration of each Attack in Total Sickness of those afterwards Dying.	Average duration of Attack immediately before Death.	$\frac{a-b}{c-d}$ Average duration of Attacks *not* ending in Death of those afterwards Dying.
16—20...	157·428	132·714	24·714	11	7	4	14·312	18·959	6·178
21—25...	430·571	282·857	714·714	50	26	24	8·611	10·879	6·230
26—30...	1120·000	657·714	462·286	85	38	47	13·176	17·308	9·836
31—35...	1215·286	700·714	514·572	119	48	71	10·212	14·598	7·247
36—40...	654·143	338·857	315·286	100	40	60	6·541	8·471	5·255
41—45...	560·428	229·428	331·000	80	38	42	7·005	6·037	7·880
46—50...	1252·857	800·428	452·429	86	36	50	14·568	22·234	9·048
51—55...	1839·857	1178·714	661·143	122	47	75	15·081	25·079	8·815
56—60...	2838·571	2167·000	671·571	127	49	78	22·351	44·224	8·609
61—65...	3816·000	3435·714	380·286	104	41	63	36·692	83·798	6·036
66—70...	1715·571	1379·286	336·285	47	23	24	36·502	59·969	14·011
71—75...	3154·428	3097·143	57·285	48	23	25	65·717	134·658	2·291
76—80...	1726·571	1673·571	53·000	15	7	8	115·105	239·081	6·625
81—85...	3384·143	3313·714	70·429	17	13	4	199·067	254·901	17·607
86—90...	...	...	...	...	...	...	...	...	...
91—95...	353·000	353·000	...	1	1	...	353·000	353·000	...
	24218·854	19740·854	4478·000	1012	437	575	23·932	45·173	7·788

It will be seen that column 8 represents the average duration of each attack of sickness, including that ending in death, as well as preceding attacks of sickness. In Abstract D, under the age of 35, it was 4·372 weeks; but in column 8, the average duration is 10·830 weeks; and in the more advanced periods of life, a similar increase in the duration of sickness is observable; so that it would seem to follow that the duration of sickness is greater among those dying at periods not very remote from the attacks, than among those surviving; and, consequently, if the duration simply of sickness be closely observed, it offers an element of considerable importance in measuring the expectation or future lifetime of individuals. In Abstract D, the average duration of each attack of sickness for all ages is 8·636 weeks; but in Abstract E, the average duration is 23·932 weeks. The former class of facts relate to persons who all survived the period of twelve years over which the observations extended; but the latter class belong to persons all of whom died within the same period of twelve years. The force of this conclusion will be more strongly felt, if attention be directed to the figures in column 9, which represents the average duration of the attack of sickness ending in death, at which it will be seen that at every term of life the fatal attack of sickness is of much greater duration than those represented in column 8, or in Abstract D. The following condensed abstract will assist in giving a general view of those results.

Ages.	Average Duration of each Attack of Sickness			
	Ending in Final Recovery. Abstract D.	Not ending in Death, but among those afterwards Dying. Col. 10, Abstract E.	Immediately preceding Death. Col. 9, Abstract E.	Among those Dying, including the Attacks immediately preceding Death, and others. Col. 8, Abstract E.
11—35	4·372	11·442	14·907	10·830
36—50	5·131	7·228	12·006	9·276
51—60	11·717	8·711	34·851	18·789
60 and upwards	45·034	7·178	16·226	11·372
Total	8·636	7·788	45·173	23·932

It is hence obvious, that having regard to the ages of persons, the duration of any attack of sickness is a most important consideration in calculating the chances of recovery. If another element, the frequency of a series of attacks of sickness, were introduced (but the details it would here be out of place to discuss), the value or the duration of life of invalids might be calculated with even more precision than the expectation of life of the general community; and if the analysis were carried one step further, and the same classification adopted as in the preceding abstracts, only keeping the sickness peculiar to each disease by itself, a series of results would be arrived at, furnishing elements of the greatest value in the estimation of the value of life among persons who have suffered or are suffering from disease. Notwithstanding the immense pecuniary interests at stake by life offices, no inquiry or investigation of this kind has ever been undertaken by them, and the preceding and other collateral collections of facts, it is believed, are the only sources of information so analysed which anywhere exists. From the specimens now furnished from the records of friendly societies, the very remarkable aids which they must afford in estimating the value of peculiar classes of lives, by confining fluctuations within known limits, must be evident. The trouble and expense of collecting such data is very great, but still the information itself is of tenfold value to the life institutions of the country.

In the following abstract will be found the combined results of Abstracts D and E, preceding; and in this, as in all the others, will be found evidence of the same general principle or law of nature which has led to this investigation of the duration of sickness peculiar to different terms of life, namely, that the duration of sickness either in the attacks immediately preceding death, or otherwise, is less protracted at the younger and middle periods of life, than at the more advanced; and hence the solution of the otherwise anomalous facts arrived at in Abstract C, that of the deaths which have taken place among the lives assured at the earlier ages, the time elapsed from the date of the policies to that of death is less than among those assured at the more advanced ages.

ABSTRACT F.

Average Duration of Total Sickness.

Ages.	Total Number of Attacks, including those ending in Recovery and those ending in Death.	Total Amount of Sickness, including that ending in Recovery and that ending in Death.	Average Duration of each Attack of Total Sickness, including that ending in Recovery, and that ending in Death.	Number of Attacks, including those ending in Recovery and those not ending in Death, of those afterwards Dying.	Amount of Sickness, including that ending in Recovery, and that not ending in Death, of those afterwards Dying.	Average Duration of each Attack of Sickness, including that ending in Recovery, and that not ending in Death, of those afterwards Dying.
11—15	12	39·428	3·286	12	39·428	3·286
16—20	117	749·571	6·407	110	616·857	5·608
21—25	637	2830·285	4·443	611	2547·428	4·169
26—30	985	5483·000	5·566	947	4825·286	5·095
31—35	1,074	5014·143	4·668	1,026	4313·429	4·204
36—40	872	4524·714	5·188	832	4185·857	5·031
41—45	758	4158·714	5·486	720	3929·286	5·457
46—50	519	3445·714	6·639	483	2645·286	5·477
51—55	537	6634·285	12·354	490	5455·571	11·133
56—60	491	7171·571	14·606	442	5004·571	11·322
61—65	350	9102·286	26·004	309	5666·572	18·338
66—70	135	5934·714	43·960	112	4555·428	40·673
71—75	116	8867·999	76·448	93	5770·856	62·052
76—80	29	4588·857	158·236	22	2915·286	132·513
81—85	19	4027·000	211·947	6	713·286	118·881
86—90	....	....	....	....	....	....
91—95	1	353·000	353·000	....	....	....
	6,652	72925·281	10·959	6,215	53184·427	8·557

Attention is next directed to the following table, which is somewhat analogous in its character to Abstract C, only that the element of age, with the view to its more simple application to practical purposes, is excluded. From the register of deaths for the years 1840-9, an abstract has been made of those which have taken place in the first, second, third, and every subsequent year, from the date of the policies, and the results constitute the following table:—

TABLE VIII.

ar.	Deaths among the Assured after the lapse of the following Number of Years from the Date of Assurance.																				
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	Total.
.....	11	14	14	9	17	9	13	15	17	8	5	13	...	...	...	...	...	...	...	...	...	143
.....	14	9	11	10	10	11	14	14	23	15	7	8	18	...	...	...	...	...	...	...	...	164
.....	6	8	13	17	14	17	15	20	14	14	24	10	5	21	...	...	...	...	...	...	...	198
.....	9	13	5	19	16	10	14	7	14	16	15	20	13	8	24	...	...	...	...	...	...	203
.....	4	11	10	9	9	8	14	15	13	7	19	19	26	10	8	18	...	...	...	...	...	200
to ...	44	53	53	64	66	55	70	71	81	60	70	70	62	39	32	18	...	...	...	...	...	908
.....	11	13	9	8	5	17	12	21	10	11	8	20	25	16	16	12	24	...	...	...	...	238
.....	7	13	3	8	20	10	11	15	21	9	14	9	14	18	16	9	8	24	...	...	...	229
.....	14	14	15	16	8	12	12	18	12	15	19	18	18	20	25	19	6	7	25	...	...	293
.....	7	14	12	14	17	17	16	15	18	14	23	21	21	11	16	23	27	17	7	29	...	339
.....	4	13	14	14	8	19	14	13	15	17	13	17	16	22	15	24	17	22	8	14	38	337
tal ...	87	120	106	124	124	130	135	153	157	126	147	155	156	126	120	105	82	70	40	43	38	2,344
r or- ...	6	9	8	10	10	12	13	15	18	11	14	16	17	11	9	7	5	4	2	3	1	

On referring to Abstract C, it will be found that the average period which had elapsed from the date of the policies to the day of death, was nine years and three months; and in the preceding table it will be also seen, that the greatest number of deaths has taken place in the ninth year after the date of the policies, the oldest policy being then about twenty-one years. During the five years 1840-4, it is curious to observe, that the greatest number of deaths was also among policies of nine years' standing, although the oldest policy was then of sixteen years' duration only; and it is still further to be observed, that during the five years 1840-4, about one-half of all the deaths took place in the first eight years of the policies; but for the ten years 1840-9, one-half of all the deaths happened in the first nine years, the oldest policies being, in the latter case, of five years' greater duration. At the same time, it will be seen that the number of deaths per annum has gone on increasing from 143, in 1840, to 337, in 1849—in the former year, the number of persons assured being 10,234, and in the latter, 15,036; so that, although the number of persons assured increased about 48 per cent., the deaths increased to the extent of 136 per cent. The numerals on the top of the table show the duration of the policies, and those in the bottom line of the table show the order in which the deaths have taken place, from the minimum, in the twenty-first year, to the maximum, in the ninth year. It is obvious that the solution of the results here presented will be derived from the law of mortality exhibited in Table IV.; the number of persons assured in each year, and the ages of those persons, and that any fluctuation whatever taking place in any one of these elements, must disturb the results set forth in Table VIII. This is observable in Abstract C, the age of the persons assured showing an important influence on the duration of the policies.

There are also other important practical considerations, as well as those of a more strictly philosophical and scientific nature, connected with the period of the year at which the deaths take place, and it may

therefore be interesting to show how far the seasons affect the number of deaths in the aggregate, as well as at the different ages or terms of life. In the following table will be found an analysis of all the deaths which have taken place in the eleven years 1839-49, distinguishing the months of the year in which they have happened, and also the ages at death :—

TABLE IX.

Ages at which the Deaths among the Assured have taken place in different Months, during the Years 1839-49.

Ages.	Months.												Total.
	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	
16	....	....	....	1	....	....	....	....	....	....	....	....	1
22—24	....	....	1	....	1	....	1	....	....	....	....	....	3
25—29	2	3	2	2	1	....	5	2	6	4	5	5	37
30—34	8	12	15	10	11	5	6	10	8	9	9	10	113
35—39	16	18	19	10	15	19	20	19	20	23	14	24	217
40—44	22	20	31	26	33	16	22	15	21	24	20	28	278
45—49	26	21	34	28	33	26	27	19	27	19	29	24	313
50—54	25	21	33	33	22	26	23	31	31	26	30	33	334
55—59	31	32	30	36	30	29	22	29	29	21	41	33	363
60—64	25	23	41	28	34	19	35	23	31	34	36	26	355
65—69	21	28	29	28	21	26	18	14	22	19	26	19	271
70—74	11	12	12	7	16	10	13	9	9	14	10	16	139
75—79	5	3	3	5	4	2	2	2	3	3	6	4	42
80—83	1	2	1	....	....	....	....	....	....	....	....	1	5
Total....	193	195	251	214	221	178	194	173	207	196	226	223	2,471

It thus appears that the greatest number of deaths has taken place in the month of March, and the least in the month of August; the three months of least mortality being August, June, and January; the three months next in order being July, February, and October; then September, April, and May; and the three months of highest mortality are December, November, and March. If, however, the year were divided into quarters of consecutive months, it will be found that they stand in the following order :—

Quarter in which the Mortality is of			
Lowest Intensity.	Second Intensity.	Third Intensity.	Highest Intensity.
June	December	September	March
July	January	October	April
August	February	November	May

The months of March, April, and May, it will be seen, constitute the quarter of highest mortality; and out of the following five classes of facts, it will be found that, in three instances, they constitute the quarter of highest mortality, and the month of March enters into the highest quarter of four out of the five groups of facts.

TABLE X.

Sweden.—Years 1831-5.			Gotha Life Office.—Years 1829-49.	
Months.	Males.	Both Sexes.	Months.	Males.
July	11,608	22,416	August	173
October	11,988	23,391	June	178
November	12,848	25,579	January	193
June	13,474	25,955	July	194
December	14,390	28,134	February	195
August	14,467	28,391	October	196
February	14,480	28,731	September	207
September	14,569	28,404	April	214
January	15,867	31,231	May	221
May	16,220	32,130	December	223
March	16,317	32,299	November	226
April	16,476	32,666	March	251

Saxony. Years 1832-8.		Belgium Towns. Years 1815-26.		Glasgow. Years 1836-42.	
Months.	Males.	Months.	Both Sexes.	Months.	Both Sexes.
October	1,893	July	0·87	June	4,258
July	1,920	June	0·90	October	4,339
November	1,921	August	0·91	September	4,409
September	1,927	May	0·95	July	4,457
June	1,932	September	0·97	May	4,542
December	1,986	April	1·00	November	4,597
August	2,007	October	1·00	April	4,720
January	2,220	November	1·02	August	4,873
February	2,231	March	1·05	December	5,267
May	2,331	December	1·08	February	5,517
March	2,387	February	1·09	March	5,523
April	2,424	January	1·16	January	7,090

But in respect to the quarter of least mortality, the results are more variable. July enters into four of the five groups, June into two, and August into only one of the five groups. These remarks have had reference to the aggregate mortality only, but if reference be now made to Table IX., it will be seen that the seasons have a very material influence on the mortality of different ages. The following abstract exhibits the results for different terms of life.

ABSTRACT G.

Ages.	Months.												Total.
	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Under 40	26	33	37	23	28	24	32	31	34	36	28	39	371
40—59	104	94	128	123	118	97	94	94	108	90	120	118	1,288
60 & upwards	63	68	86	68	75	57	68	48	65	70	78	66	812
Total	193	195	251	214	221	178	194	173	207	196	226	223	2,471

Under the age of 40, it thus appears that the least mortality has been in the month of April, and the greatest in the month of December; but in the term of life 40-59, the least mortality has been in the month of October, and the highest in the month of March also. Again, in respect to the most advanced term of life, those aged 60 and upwards, the least mortality has, as in the case for the aggregate of all ages, been in the month of August, and the highest likewise in the month of March. The following, then, will represent the quarters of highest and lowest mortality:—

	Ages at which the Deaths have happened.			
	Under Age 40.	Ages 40—59.	Aged 60 and upwards.	Results for all Ages.
Quarter of Least Mortality.....	April, May, June.	June, July, August.	June, July, August.	June, July, August.
Quarter Second in Intensity	July, August, September.	December, January, February.	December, January, February.	December, January, February.
Quarter Third in Intensity	January, February, March.	September, October, Nov.	September, October, Nov.	September, October, Nov.
Quarter of Highest Mortality	October, Nov., December.	March, April, May.	March, April, May.	March, April, May.

Hence, by grouping the different months into quarters formed of consecutive months, representing the highest and lowest mortality, it will be seen that the combinations agree for all the terms of life unless those for ages under 40, and this is in conformity to the results already observed under Abstracts C, D, E, and F, the more acute form of diseases peculiar to those ages being differently affected by changes of temperature and seasons; but if, instead of the combinations into quarters, the mortality be arranged into the order of the months, a much greater disparity in the results will be observable:—

Order of the Months of Lowest and Highest Mortality, for those Dying aged

	Under 40.	40—59.	60 and upwards.	All Ages.
1	April	October	August	August
2	June	February	June	June
3	January	July	January	January
4	May	August	September	July
5	November	June	December	February
6	August	January	February	October
7	July	September	April	September
8	February	May	July	April
9	September	December	October	May
10	October	November	May	December
11	March	April	November	November
12	December	March	March	March

The influence of the seasons on the mortality at different ages is hence obvious, and there can be little doubt that a more extended

series of observations would lead to a well-defined law in this respect. The importance of the question to life institutions and to science, it is hoped, will induce those interested in such subjects to investigate the matter further.

The next part of this inquiry to be brought under consideration is that which relates to the disease, or cause of death. The Report of the Gotha Society for the year 1838 contains an abstract of the causes of death for the ten years 1829-38, arranging the diseases according to a general and popular form of classification; and the Report for the year 1848 contains a similar abstract for the twenty years 1829-48. The following shows the results arrived at:—

ABSTRACT H.

Disease.	Number of Deaths during the Years												
	1829 to 1838.						1829 to 1848.						
	At Ages					Total.	At Ages						Total.
	21 to 30.	31 to 40.	41 to 50.	51 to 60.	61 to 72.		17 to 30.	31 to 40.	41 to 50.	51 to 60.	61 to 70.	71 to 83.	
Fever	7	21	38	50	9	125	17	101	143	144	71	15	491
Influenza	...	9	10	3	7	29	...	11	12	9	12	5	49
Asiatic Cholera	...	2	5	5	...	12	...	4	12	8	5	...	29
Exanthemic Diseases	1	2	...	1	...	4	2	5	...	1	1	...	9
Local Inflammation	2	20	19	29	15	85	12	72	106	103	75	16	384
Gout and Rheumatism	3	3	7	9	3	25	4	13	25	22	23	2	89
Chronic Pulmonary Diseases	8	38	33	22	7	108	19	115	166	111	46	1	458
Chronic Abdominal Diseases	...	14	14	10	7	45	...	37	65	86	74	12	274
Mental Affections	...	3	1	1	2	7	...	9	11	18	9	2	49
Diseases of Spinal Marrow	...	3	3	2	2	10	...	5	9	7	10	2	33
Organic Diseases of the Heart	1	...	4	3	...	8	2	4	12	20	16	1	55
Dropsy	...	4	17	25	6	52	3	16	56	94	71	11	251
Cancers and Malignant Ulcers	...	1	13	8	5	27	...	2	22	20	14	6	64
Apoplexy	2	10	21	52	27	112	7	29	69	151	116	20	392
Old Age	...	...	...	...	4	4	...	...	...	1	35	42	78
Accidents	...	2	3	3	...	8	...	6	11	13	6	...	36
Murdered	...	...	...	...	...	...	...	1	1	...	...	...	2
Suicide	2	4	2	3	...	11	4	15	19	20	6	...	64
Total	26	136	190	226	94	672	70	445	739	828	590	135	2,807

It will thus be seen that, during the first ten years, 672 deaths happened; and during the whole period of twenty years, 2,807 deaths.

ABSTRACT I.

Disease.	Ratio of Deaths from each of Six Causes to the whole Mortality, during the Years					
	1829—1838.		1839—1848.		1829—1848.	
	Deaths.	Per Centage.	Deaths.	Per Centage.	Deaths.	Per Centage.
Fever	125	18·602	366	17·141	491	17·492
Chronic Pulmonary Diseases	108	16·071	350	16·392	458	16·317
Apoplexy	112	16·667	280	13·113	392	13·965
Local Inflammation	85	12·649	299	14·003	384	13·680
Chronic Abdominal Diseases	45	6·696	229	10·725	274	9·761
Dropsy	52	7·738	199	9·320	251	8·942
Six causes	527	78·423	1,723	80·694	2,250	80·157

The preceding table represents the ratio of deaths which have taken place from six principal classes of disease during each decennial period, and during the whole twenty years, without distinction of ages.

From a subsequent table, it will be found that the average age of the assured varied, in the twenty years to which the preceding figures relate, from 43 years to 47 years, and hence might be expected an increased number of deaths from apoplexy, which is generally believed to press with greater intensity as age increases; such, however, it will be seen, is not the case, so far as the preceding facts are concerned, for, in the first decennial period, the deaths from apoplexy formed about 17 per cent. of the whole, while in the second ten, the deaths from that cause were a little above 13 per cent. only. There can be no doubt that this difference is, to a great extent, if not entirely, due to the small number of deaths included in the first period; and it will be, therefore, more advantageous to examine the results in connexion with the number of lives exposed to the risk of mortality at the various terms of life. The following exhibits, therefore, the ratio of deaths per cent. to the population exposed to the risk of mortality from different causes, according to the preceding classification of disease :—

TABLE XI.

Disease.	Ratio of Deaths from Different Causes during 1829 to 1848, at the following Ages.													
	17—30.		31—40.		41—50.		51—60.		61—70.		71—83.		All Ages.	
	Number of Lives at Risk during 1829—1848.													
	10,074		46,884		57,208		36,421		13,110		1,393		165,090	
	No. of Deaths.	Mortality Per Cent.	No. of Deaths.	Mortality Per Cent.	No. of Deaths.	Mortality Per Cent.	No. of Deaths.	Mortality Per Cent.	No. of Deaths.	Mortality Per Cent.	No. of Deaths.	Mortality Per Cent.	No. of Deaths.	Mortality Per Cent.
Fever	17	·169	101	·215	143	·250	144	·395	71	·542	15	1·077	491	·297
Influenza	...	...	11	·023	12	·021	9	·025	12	·092	5	·359	49	·030
Asiatic Cholera	...	...	4	·009	12	·021	8	·022	5	·038	...	...	29	·018
Exanthemic Diseases	2	·020	5	·011	...	...	1	·003	1	·008	...	...	9	·005
Local Inflammation	12	·119	72	·154	106	·185	103	·283	75	·572	16	1·149	384	·233
Gout and Rheumatism	4	·040	13	·028	25	·044	22	·060	23	·175	2	·144	89	·054
Chronic Pulmonary Diseases	19	·189	115	·245	166	·290	111	·305	46	·351	1	·072	458	·277
Chronic Abdominal Diseases	...	...	37	·079	65	·114	86	·236	74	·564	12	·861	274	·132
Mental Affections	...	...	9	·019	11	·019	18	·049	9	·069	2	·144	49	·030
Diseases of Spinal Marrow	...	...	5	·011	9	·016	7	·019	10	·076	2	·144	33	·020
Organic Diseases of the Heart	2	·020	4	·009	12	·021	20	·055	16	·122	1	·072	55	·033
Dropsy	3	·030	16	·034	56	·098	94	·258	71	·542	11	·790	251	·152
Cancers and Malignant Ulcers	...	...	2	·004	22	·038	20	·055	14	·107	6	·431	64	·039
Apoplexy	7	·069	29	·062	69	·121	151	·415	116	·885	20	1·436	392	·237
Old Age	...	...	...	...	...	...	1	·003	35	·267	42	3·015	78	·047
Accidents	...	...	6	·013	11	·019	13	·036	6	·046	...	...	36	·022
Murdered	...	...	1	·002	1	·002	...	...	...	...	...	...	2	·001
Suicide	4	·040	15	·032	19	·033	20	·055	6	·046	...	...	64	·039
All Diseases	70	·695	445	·949	739	1·291	828	2·273	590	4·500	135	9·691	2,807	1·703

In the class of disease denominated fever, in the preceding table, it will be seen that the mortality uniformly increases from the younger to the older ages. With respect to the group of diseases "local inflammation," it will be seen, that although there is an increase in the rate of mortality from the younger to the older ages, still the difference is very slight under the age of 50, and the intensity greatest of all at the

term of life 61-70. Again, with respect to "chronic pulmonary diseases," the bulk of the deaths have taken place between the ages of 31-70, and the rate of mortality increases from ·245 per cent. in the term of life 31-40, to ·351 per cent. at ages 61-70. In the class "chronic abdominal diseases," the mortality increases in a very rapid manner from the younger to the older ages, being only ·079 per cent. at ages 31-40, and as much as ·564 per cent. at ages 61-70. Similar results connect themselves with the deaths from dropsy, but in the section "apoplexy," the greatest variation is observable in connexion with a difference of age; at the term of life 31-40, the mortality is ·062 per cent., increasing rapidly till ages 71-83, in which it is 1·436 per cent. from this disease. This is in accordance with the received opinion of medical men on the character of this disease.

If the influence of the preceding mentioned six groups of diseases be now viewed in connexion with specific terms of life, it will be seen that, in the decennial period, 31-40, the greatest rate of mortality has taken place from "pulmonary diseases," next from fevers, then from "local inflammations," "abdominal diseases," "apoplexy," and least of all from "dropsy;" and in the next ten years of life, the mortality of these diseases follows the same order as to their intensity. In the term of life 51-60, however, the following is the order in which the same six diseases stand as to intensity:—apoplexy, fever, pulmonary diseases, inflammation, dropsy, and abdominal diseases. And in the ten years 61-70, the order is again varied, being apoplexy, inflammation, abdominal diseases, fever and dropsy equal, and pulmonary diseases at the bottom of the scale; and in the most advanced term of life of the preceding abstract, the following is the order of intensity of the diseases:—apoplexy, inflammation, fever, abdominal diseases, dropsy, and pulmonary diseases. The following arrangement may perhaps exhibit these results in a more simple form:—

Diseases arranged according to the order of their Intensity at the following Terms of Life.

31—40.	41—50.	51—60.	61—70.	71—83.
Pulmonary Diseases.	Pulmonary Diseases.	Apoplexy.	Apoplexy.	Apoplexy.
Fevers.	Fevers.	Fevers.	Inflammations.	Inflammations.
Inflammations.	Inflammations.	Pulmonary Diseases.	Abdominal Diseases.	Fevers.
Abdominal Diseases.	Abdominal Diseases.	Inflammations.	Fever. }	Abdominal Diseases.
Apoplexy.	Apoplexy.	Dropsy.	Dropsy. }	Dropsy.
Dropsy.	Dropsy.	Abdominal Diseases.	Pulmonary Diseases.	Pulmonary Diseases.

Pulmonary disease is, therefore, so far as the preceding facts are concerned, essentially the disease of highest intensity in the destruction

of life under 50, and above that age, apoplexy; the other diseases maintaining varying but intermediate positions in the scale of mortality.

The preceding classification of diseases, although being that given in the Reports referred to, is evidently not sufficiently exact in its arrangement to merit much further criticism on the results, and it has therefore been thought desirable to classify the deaths according to a better nosological system. The whole of the deaths for the eleven years 1839-49, have, therefore, been so classified, the facts given not admitting of the deaths in the first ten years being so treated. It will be seen, that during the eleven years 1839-49, there have been 2,471 deaths, and in the ten years 1829-38, there have been 672 deaths, making in all 3,143, so that nearly 79 per cent. of the whole become subject to the more complete nosological classification. The information furnished respecting each death, not only gives the age and cause

TABLE XII.—*Deaths in the Gotha Life Office*

CAUSES OF DEATH.	AGES.															
	Under 20.		20—24.		25—29.		30—34.		35—39.		40—	
	No.	Duration	No	Duration	No	Duration	No.	Duration	No.	Duration	No.	Du
		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Y
All Causes	1	1 5	3	6 9	37	107 10	113	391 2	217	1,129 4	278	1,8
Specified Causes	1	1 5	3	6 9	37	117 10	113	391 2	217	1,129 4	278	1,8
I. Zymotic Diseases	...	...	1	0 2	10	24 11	38	110 4	60	325 8	64	4
SPORADIC DISEASES.												
II. Dropsy, Cancer, and other Diseases of uncertain or variable seat	...	...	...	...	2	5 6	9	28 10	18	87 9	38	2
III. Tubercular Diseases	...	...	1	1 2	9	36 5	38	158 0	54	279 2	74	3
IV. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	...	...	...	...	6	17 0	5	16 3	22	99 10	29	2
V. Diseases of the Heart and Blood-vessels	...	...	...	...	1	1 6	1	1 1	7	33 8	6	
VI. Diseases of the Lungs and of the other Organs of Respiration	1	1 5	1	5 5	4	10 10	9	33 4	26	126 1	29	1
VII. Diseases of the Stomach, Liver, and other Organs of Digestion	...	...	...	...	1	2 3	3	11 3	14	79 9	25	1
VIII. Diseases of the Kidneys, &c.	...	...	...	...	...	...	...	...	5	33 3	2	
IX. Childbirth, Diseases of the Uterus, &c.	...	...	...	...	...	...	3	4 7	...	...	...	
X. Rheumatism, Diseases of the Bones, Joints, &c.	...	...	...	...	1	7 7	...	...	2	12 6	1	
XI. Diseases of the Skin, Cellular Tissue, &c.	...	...	...	...	1	3 5	...	...	...	...	...	
XIII. Debility	...	...	...	...	...	...	...	...	...	...	...	
XV. Age	...	...	...	...	...	...	...	...	...	...	...	
XVII. Violence, Privation, Cold, and Intemperance	...	...	...	...	2	8 5	7	27 6	9	51 8	10	
I. Small Pox	...	...	...	...	...	...	...	...	...	...	1	
Measles	...	...	...	...	...	...	1	0 2	...	...	...	
Scarlatina	...	...	...	...	1	3 9	1	2 2	...	...	...	
Croup	...	...	...	...	...	...	...	...	...	...	...	
Diarrhœa	...	...	...	...	...	...	...	...	...	...	...	
Dysentery	...	...	...	...	...	...	...	...	3	14 2	1	
Cholera	...	...	...	...	...	...	3	11 1	4	18 6	7	
Influenza	...	...	...	...	...	...	1	0 11	1	8 3	5	
Purpura and Scurvy	...	...	...	...	1	10 7	...	...	...	...	...	
Ague	...	...	...	...	...	...	1	1 1	...	...	...	
Typhus	...	...	1	0 2	8	21 2	25	69 0	45	244 11	44	3
Metria, or Puerperal Fever	...	...	...	...	...	...	1	1 3	2	24 8	...	
Rheumatic Fever	...	...	...	...	1	...	5	24 8	4	8 0	3	
Erysipelas	...	...	...	...	...	...	...	...	1	7 2	3	

of death, but also the age at the time the life was assured, and in every instance distinguishing the ages to the nearest month, so that a new and important element in vital statistics is thus introduced, by which can be seen the facility with which different diseases may engraft themselves on the constitution at different terms of life, or, in other words, the rate at which the deterioration of life takes place from the standard of ordinary health, at different ages, from various diseases; for, with respect to all the lives now under consideration, at the time the assurances were effected, they underwent the usual scrutiny before admission into the Society.

In the following table will be found an abstract of the number of deaths which have taken place at the various periods of life from different diseases, and at the same time setting forth the period which has elapsed, in years and months, from the date of effecting the policies to the date of death:—

rom All Causes, and Total Duration.

AGES.

49.		50—54.		55—59.		60—64.		65—69.		70—74.		75—79.		80—85.		All Ages.	
ration		No.	Duration	No.	Duration	No.	Duration	No.	Duration	No.	Duration	No.	Duration	No.	Duration	No.	Duration
s. Ms.			Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.
51 10		334	2,961 8	363	3,534 3	355	3,834 0	271	3,336 1	139	2,005 11	42	690 1	5	96 4	2,471	22,507 9
46 3		330	2,935 0	361	3,521 6	355	3,834 0	270	3,328 5	139	2,005 11	42	690 1	5	96 4	2,463	22,455 1
7 6		64	557 9	66	571 8	59	641 4	43	528 1	20	278 0	9	145 1	2	39 0	503	4,187 9
2 8		46	406 11	66	604 2	72	651 3	47	611 0	25	375 5	8	124 8	...	...	380	3,606 11
5 1		67	634 6	54	611 5	49	566 4	20	239 3	5	68 2	...	...	...	...	437	3,513 4
7 7		58	529 2	63	600 7	62	726 9	53	654 2	26	378 3	6	103 3	...	...	375	3,712 10
5 0		10	112 7	19	149 6	12	139 10	2	31 0	...	...	...	...	...	...	69	619 11
9 7		33	197 3	34	379 1	32	356 4	39	465 9	13	168 1	2	31 10	...	...	251	2,155 5
8 1		26	250 11	37	397 3	41	419 0	25	309 11	12	187 9	3	53 8	...	...	207	2,052 10
4 4		6	47 6	3	21 9	10	127 4	8	92 11	2	21 9	...	...	...	...	40	401 2
7 2		1	8 9	...	...	1	10 0	...	...	...	...	...	...	...	...	10	70 6
2 0		2	16 0	1	10 10	...	...	...	...	1	14 1	...	...	...	...	13	114 1
9 5		1	7 2	...	...	1	19 7	1	9 3	...	...	...	...	...	...	5	48 10
...		...	...	1	6 11	...	...	3	44 6	...	...	...	...	...	...	4	51 5
...		...	...	...	...	6	65 4	24	295 4	35	514 3	14	231 7	3	57 4	82	1,163 10
7 10		16	166 6	17	168 4	10	138 0	5	49 3	...	...	...	...	...	...	87	796 0
6 6		...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	19 10
...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	0 2
...		1	1 1	...	...	...	...	...	...	...	...	...	...	...	...	3	7 0
...		1	10 7	...	...	...	...	...	...	...	...	...	...	...	...	1	10 7
...		...	...	...	...	1	13 7	...	...	1	14 4	...	...	...	...	2	27 11
0 10		5	41 6	1	8 10	4	33 5	3	41 9	1	11 10	1	15 9	...	...	23	205 6
5 4		8	97 4	10	84 9	8	111 0	9	111 9	2	37 11	1	20 0	...	...	60	611 4
4 7		4	47 9	5	64 6	10	97 10	3	26 3	10	120 11	5	81 1	1	19 1	47	517 6
...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	10 7
8 9		...	...	6	44 7	2	17 7	...	...	...	...	...	...	...	...	10	72 0
7 0		42	343 11	36	290 3	28	286 4	25	308 11	5	62 8	2	28 3	...	...	305	2,307 5
...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	25 11
4 9		2	13 10	3	24 0	5	71 0	1	13 1	...	...	...	...	1	19 11	28	208 0
9 9		1	1 9	4	44 1	1	10 7	2	26 4	1	20 4	...	...	...	...	17	153 11

TABLE XII.—*Deaths in the Gotha Life Office*

CAUSES OF DEATH.	AGES.											
	Under 20.		20—24.		25—29.		30—34.		35—39.		40—4	
	No.	Duration	No.	Duration	No.	Duration	No.	Duration	No.	Duration	No.	Dur
		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs.
II. Hæmorrhage	...	...	...	...	1	3 2	1	1 11	4	13 5	7	6
Dropsy	...	...	...	...	1	2 4	7	23 7	8	32 11	21	15
Ulcer	...	...	...	...	...	...	...	...	...	...	...	
Mortification	...	...	...	...	...	...	...	...	...	...	...	
Cancer	...	...	...	...	...	...	1	3 4	4	38 1	5	3
Gout	...	...	...	...	...	...	...	...	2	3 4	5	4
III. Scrofula	...	...	...	...	...	...	...	...	...	...	...	
Tabes Mesenterica	...	...	...	...	...	...	2	9 4	5	29 4	4	3
Phthisis, or Consumption	...	...	1	1 2	9	36 5	36	148 8	49	249 10	70	30
IV. Cephalitis	...	...	...	...	...	...	2	3 7	4	15 10	4	2
Apoplexy	...	...	...	...	4	12 8	...	...	15	65 5	15	10
Paralysis	...	...	...	...	1	0 10	...	...	...	...	...	
Insanity	...	...	...	...	...	...	...	...	1	5 5	1	
Disease of the Brain, &c.	...	...	...	...	1	3 6	3	12 8	2	13 2	9	8
V. Pericarditis	...	...	...	...	...	...	...	...	2	8 11	...	
Aneurism	...	...	...	...	...	...	...	...	1	5 10	1	
Disease of Heart	...	...	...	...	1	1 6	1	1 1	4	18 11	5	6
VI. Laryngitis	...	...	...	...	...	...	...	...	1	1 7	...	
Bronchitis	...	...	...	...	...	...	...	...	1	0 2	...	
Pneumonia	1	1 5	1	5 5	4	10 10	9	33 4	23	119 11	29	19
Asthma	...	...	...	...	...	...	...	...	...	...	...	
Disease of Lungs	...	...	...	...	...	...	...	...	1	4 5	...	
VII. Quinsey	...	...	...	...	...	...	...	...	1	4 4	1	
Gastritis	...	...	...	...	...	...	...	...	...	...	1	
Enteritis	...	...	...	...	...	...	...	...	1	7 10	3	1
Peritonitis	...	...	...	...	1	2 3	2	9 1	5	24 3	3	2
Ascites	...	...	...	...	...	...	...	...	...	...	1	
Ulceration of Intestines, &c.	...	...	...	...	...	...	...	...	1	6 7	...	
Hernia	...	...	...	...	...	...	...	...	...	...	...	
Ileus	...	...	...	...	...	...	...	...	...	...	...	
Intussusception	...	...	...	...	...	...	...	...	...	...	...	
Structure of Intestinal Canal	...	...	...	...	...	...	...	...	...	...	...	
Disease of Stomach, &c.	...	...	...	...	...	...	...	...	4	31 6	4	3
Hepatitis	...	...	...	...	...	...	1	2 2	1	4 7	4	2
Jaundice	...	...	...	...	...	...	...	...	...	...	1	1
Disease of Liver	...	...	...	...	...	...	...	...	1	0 8	7	5
Disease of Spleen	...	...	...	...	...	...	...	...	...	...	...	
VIII. Nephritis	...	...	...	...	...	...	...	...	...	...	...	
Nephria, or Bright's Disease	...	...	...	...	...	...	...	...	3	23 3	1	
Diabetes	...	...	...	...	...	...	...	...	1	0 11	1	1
Stone	...	...	...	...	...	...	...	...	...	...	...	
Cystitis	...	...	...	...	...	...	...	...	...	...	...	
Disease of Kidneys, &c.	...	...	...	...	...	...	...	...	1	9 1	...	
X. Arthritis	...	...	...	...	1	7 7	...	...	1	6 6	...	
Rheumatism	...	...	...	...	...	...	...	...	1	6 0	1	
Disease of Joints, &c.	...	...	...	...	...	...	...	...	...	...	...	
XI. Phlegmon	...	...	...	...	...	...	...	...	...	...	...	
Disease of Skin, &c.	...	...	...	...	1	3 5	...	...	...	...	...	
XVII. Hanging, &c.	...	...	...	...	...	...	...	...	...	...	1	
Fractures	...	...	...	...	...	...	...	...	...	...	...	
Wounds	...	...	...	...	...	...	...	...	...	...	...	
Other Violence	...	...	...	...	2	8 5	7	27 6	9	51 8	9	6
Causes not specified	...	...	...	...	...	...	...	...	...	...	...	

The preceding table will be useful to enable those interested in the facts contained in it to effect other combinations which may suggest themselves; but Table XIII, which is deduced from it, is that which

from All Causes, and Total Duration.—Continued.

| AGES. | | |

Table XIII.—*Deaths in the Gotha Life Office*

Causes of Death.	AGES.															
	Under 20.		20—24.		25—29.		30—34.		35—39.		40—44.	
	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration
		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. M
All Causes	1	1 5	3	2 3	37	3 2	113	3 6	217	5 2	278	6
Specified Causes	1	1 5	3	2 3	37	3 2	113	3 6	217	5 2	278	6
I. Zymotic Diseases	...	...	1	0 2	10	2 5	38	2 11	60	5 5	64	7
Sporadic Diseases.												
II. Dropsy, Cancer, and other Diseases of uncertain or variable seat	...	...	...	...	2	2 9	9	3 2	18	4 10	38	7
III. Tubercular Diseases	...	...	1	1 2	9	4 0	38	4 1	54	5 2	74	4
IV. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	...	...	...	...	6	2 10	5	3 3	22	4 6	29	7
V. Diseases of the Heart and Blood-vessels	...	...	...	...	1	1 6	1	1 1	7	4 9	6	10 1
VI. Diseases of the Lungs and of the other Organs of Respiration	1	1 5	1	5 5	4	2 8	9	3 8	26	4 10	29	6
VII. Diseases of the Stomach, Liver, and other Organs of Digestion	...	...	...	...	1	2 3	3	3 0	14	5 8	25	7 ...
VIII. Diseases of the Kidneys, &c.	...	...	...	...	...	...	...	...	5	6 7	2	6
IX. Childbirth, Diseases of the Uterus, &c.	...	...	...	...	...	...	3	1 6	...	...	...	...
X. Rheumatism, Diseases of the Bones, Joints, &c.	...	...	...	...	1	7 7	...	...	2	6 3	1	1
XI. Diseases of the Skin, Cellular Tissue, &c.	...	...	...	...	1	3 5	...	...	...	...	...	...
XIII. Debility	...	...	...	...	...	...	...	...	...	...	...	...
XV. Age	...	...	...	...	...	...	...	...	...	...	...	...
XVII. Violence, Privation, Cold, and Intemperance	...	...	...	...	2	4 2	7	3 11	9	5 8	10	6 1
I. Small Pox	...	...	...	...	...	...	...	...	...	...	1	13
Measles	...	...	...	...	...	...	1	0 2	...	...	...	...
Scarlatina	...	...	...	...	1	3 9	1	2 2	...	...	...	...
Croup	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery	...	...	...	...	...	...	...	...	3	4 8	1	7
Cholera	...	...	...	...	...	...	3	3 8	4	4 7	7	6
Influenza	...	...	...	...	...	...	1	1 11	1	8 3	5	5
Purpura and Scurvy	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	1	1 1	...	...	...	...
Typhus	...	...	1	0 2	8	2 7	25	2 9	45	5 5	44	7
Metria, or Puerperal Fever	...	...	...	...	...	...	1	1 3	2	12 4	...	...
Rheumatic Fever	...	...	...	...	1	...	5	4 11	4	2 0	3	6
Erysipelas	...	...	...	...	...	...	...	...	1	7 2	3	7 1
II. Hæmorrhage	...	...	...	...	1	3 2	1	1 11	4	3 4	7	9
Dropsy	...	...	...	...	1	2 4	7	3 4	8	4 1	21	7
Ulcer	...	...	...	...	...	...	...	...	...	...	...	...
Mortification	...	...	...	...	...	...	...	...	...	...	...	...
Cancer	...	...	...	...	...	...	1	3 4	4	9 6	5	7
Gout	...	...	...	...	...	...	...	...	2	1 8	5	8 1
III. Scrofula	...	...	...	...	...	...	...	...	...	...	...	...
Tabes Mesenterica	...	...	...	...	...	...	2	4 8	5	5 10	4	9
Phthisis, or Consumption	...	...	1	1 2	9	4 1	36	4 2	49	5 1	70	4
IV. Cephalitis	...	...	...	...	...	...	2	1 9	4	4 0	4	7
Apoplexy	...	...	...	...	4	3 2	...	...	15	4 4	15	7
Paralysis	...	...	...	...	1	0 10	...	...	...	...	...	...
Insanity	...	...	...	...	...	...	...	...	1	5 5	1	1
Disease of the Brain, &c.	...	...	..	...	1	3 6	3	4 3	2	6 7	9	8 1
V. Pericarditis	...	...	...	...	...	...	...	...	2	4 5	...	...
Aneurism	...	...	...	...	..	...	...	...	1	5 10	1	2
Disease of Heart	...	...	...	...	1	1 6	1	1 1	4	4 9	5	12

from All Causes, and Average Duration.

AGES.

45—49.		50—54.		55—59.		60—64.		65—69.		70—74.		75—79.		80—85.		All Ages.	
Average Duration		No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration
Yrs.	Ms.		Yrs.	Ms.	Yrs.	Ms.	Yrs.	Ms.	Yrs.	Ms.	Yrs.	Ms.	Yrs.	Ms.	Yrs.	Ms.		Yrs.	Ms.
8	2	334	8	10	363	9	8	355	10	10	271	12	4	139	14	9	42	16	6	5	19	3	2,471	9	1
8	2	330	8	11	361	9	9	355	10	10	270	12	4	139	14	9	42	16	6	5	19	3	2,463	9	1
7	7	64	8	9	66	8	8	59	10	1	43	12	3	20	13	5	9	16	1	2	19	6	503	8	4
8	10	46	8	10	66	9	2	72	8	9	47	13	0	25	15	0	8	15	7	...	...		380	9	6
8	9	67	9	6	54	11	4	49	11	7	20	12	0	5	13	7	...	...		...	...		437	8	0
8	2	58	9	2	63	9	6	62	11	8	53	12	4	26	14	7	6	17	2	...	...		375	9	2
7	9	10	11	3	19	7	10	12	11	8	2	15	6	...	...		...	...		...	...		69	9	0
6	5	33	6	0	34	11	2	32	11	2	39	11	11	13	12	11	2	15	11	...	...		251	8	7
6	11	26	9	8	37	10	9	41	10	3	25	12	4	12	15	8	3	17	10	...	...		207	9	1
11	1	6	7	11	3	7	3	10	12	8	8	11	7	2	10	10	...	...		...	...		40	10	0
9	5	1	8	9	...	...		1	10	0	...	...		...	...		...	...		...	...		10	7	1
10	4	2	8	0	1	10	10	1	14	1	...	...		...	...		...	...		...	...		13	8	9
9	5	1	7	2	...	...		1	19	7	1	9	3	...	...		...	...		...	...		5	9	9
...		...	...		1	6	11	...	...		3	14	10	...	...								4	14	4
...		...	...		...	...		6	10	10	24	12	4	35	14	11	14	16	7	3	19	1	82	44	2
8	11	16	10	5	17	7	11	10	13	10	5	9	10	...	...		...	...		...	...		87	8	10
6	6	...	...		...	...		...	...		...	...		...	...		...	...		...	...		2	9	11
...		...	...		...	...		...	...		...	...		...	...		...	...		...	...		1	0	2
...		1	1	1	...	...		...	...		...	...		...	...		...	...		...	...		3	2	4
...		1	10	7	...	...		...	...		...	...		...	...		...	...		...	...		1	10	7
...		...	...		...	...		1	13	7	...	...		1	14	4	...	...		...	...		2	13	11
7	8	5	8	3	1	8	10	4	8	4	3	13	11	1	11	10	1	15	9	...	...		23	8	11
9	5	8	12	2	10	8	5	8	13	10	9	12	5	2	18	11	1	20	0	...	...		60	10	2
12	3	4	11	11	5	12	10	10	9	9	3	8	9	10	12	1	5	16	2	1	19	1	47	11	0
...		...	...		1	10	7	...	...		...	...		...	...		...	...		...	...		1	10	7
8	9	...	...		6	7	4	2	8	9	...	...		...	...		...	...		...	...		10	7	2
7	5	42	8	2	36	8	0	28	10	2	25	12	4	5	12	6	2	14	2	...	...		305	7	9
...		...	...		...	...		...	...		...	...		...	...		...	...		...	...		3	8	8
4	11	2	6	11	3	8	0	5	14	2	1	13	1	...	...		...	...		1	19	11	28	7	5
4	11	1	1	9	4	11	0	1	10	7	2	13	2	1	20	4	...	...		...	...		17	9	1
7	9	3	8	1	6	12	1	4	10	2	1	14	6	...	...		1	9	11	...	...		34	8	7
9	0	29	8	3	43	9	8	45	8	4	31	13	2	15	14	9	5	17	1	...	...		232	9	7
...		...	...		1	7	5	...	...		...	...		...	...		...	...		...	...		1	7	5
...		3	9	4	...	...		2	9	2	1	5	5	2	18	7	...	...		...	...		8	11	1
10	5	8	10	9	12	9	0	15	8	7	10	13	4	4	14	6	2	14	9	...	...		70	10	2
7	2	3	9	9	4	3	9	6	11	4	4	12	11	4	14	8	...	...		...	...		35	9	2
2	7	1	15	2	...	...		...	...		...	...		...	...		...	...		...	...		3	6	10
4	4	1	4	11	6	10	3	6	10	3	6	10	9	1	11	9	...	...		...	...		32	8	11
9	0	65	9	5	48	11	5	43	11	9	14	12	6	4	14	1	...	...		...	...		402	8	0
9	9	3	6	4	2	8	4	3	10	6	3	11	10	1	15	1	...	...		...	...		28	8	0
8	0	38	9	6	50	9	6	48	11	10	45	12	6	19	14	6	6	17	3	...	...		274	10	0
1	2	3	6	4	1	8	2	1	13	1	3	12	4	2	12	10	...	...		...	...		12	8	9
...		3	6	1	...	...		...	...		...	...		...	...		...	...		...	...		5	5	1
9	3	11	10	2	10	10	0	10	11	7	2	10	7	4	15	7	...	...		...	...		56	7	11
...		2	6	9	...	...		...	...		...	...		...	...		...	...		...	...		4	5	7
5	8	...	...		1	8	4	...	...		...	...		...	...		...	...		...	...		4	5	7
7	11	8	12	5	18	17	10	12	11	8	2	15	0	...	...		...	...		...	...		61	9	5

TABLE XIII.—*Deaths in the Gotha Life Office*

CAUSES OF DEATH.	AGES.											
	Under 20.		20—24.		25—29.		30—34.		35—39.		40—44.	
	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Durati
		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. M
VI. Laryngitis	...	...	...	...	...	...	...	...	1	1 7	...	...
Bronchitis	...	...	...	...	...	...	...	...	1	0 2	...	...
Pneumonia	1	1 5	1	5 5	4	2 9	9	3 8	23	5 9	29	6
Asthma	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Lungs	...	...	...	...	...	...	...	...	1	4 5	...	...
VII. Quinsey	...	...	...	...	...	...	...	...	1	4 4	1	1
Gastritis	...	...	...	...	...	...	...	...	...	...	1	5
Enteritis	...	...	...	...	...	...	...	...	1	7 10	3	5 1
Peritonitis	...	...	...	...	1	2 3	2	4 7	5	4 10	3	9
Ascites	...	...	...	...	...	...	...	...	...	...	1	7
Ulceration of Intestines, &c.	...	...	...	...	...	...	...	...	1	6 7	...	...
Hernia	...	...	...	...	...	...	...	...	...	...	...	...
Ileus	...	...	...	...	...	...	...	...	...	...	...	...
Intussusception	...	...	...	...	...	...	...	...	...	...	...	...
Stricture of Intestinal Canal	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Stomach, &c.	...	...	...	...	...	...	...	...	4	7 10	4	8
Hepatitis	...	...	...	...	...	...	1	2 ... 2	1	4 7	4	7
Jaundice	...	...	...	...	...	...	...	...	...	...	1	12
Disease of Liver	...	...	...	...	...	...	...	...	1	0 8	7	7
Disease of Spleen	...	...	...	...	...	...	...	...	...	...	...	...
VIII. Nephritis	...	...	...	...	...	...	...	...	...	...	...	...
Nephria, or Bright's Disease	...	...	...	...	...	...	...	...	3	7 9	1	1
Diabetes	...	...	...	...	...	...	...	...	1	0 11	1	10
Stone	...	...	...	...	...	...	...	...	...	...	...	...
Cystitis	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Kidneys, &c.	...	...	...	...	...	...	...	...	1	9 1	...	...
X. Arthritis	...	...	...	...	1	7 7	...	...	1	6 6	...	...
Rheumatism	...	...	...	...	...	...	...	...	1	6 0	1	1
Disease of Joints, &c.	...	...	...	...	...	...	...	...	...	...	...	...
XI. Phlegmon	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Skin, &c.	...	...	...	...	1	3 5	...	...	...	...	...	...
XVII. Hanging, &c.	...	...	...	...	...	...	...	...	...	...	1	9
Fractures	...	...	...	...	...	...	...	...	...	...	...	...
Wounds	...	...	...	...	...	...	...	...	...	...	...	...
Other Violence	...	...	...	...	2	4 2	7	3 11	9	5 8	9	6
Causes not specified	...	...	...	...	...	...	...	...	...	...	...	...

In this table, it will be found that the causes of death are unspecified in 8 only out of the 2,471 cases recorded. The results herein given are so novel, but yet so varied, that it will be impossible to discuss them fully within the limits of this paper, and the most obvious will therefore be only brought under consideration. In Abstract C, preceding, it was seen that, measuring the period which elapsed from the date of effecting the policies to the date of death, the interval was less for young lives than for older ones; and here, by adopting the opposite test, of measuring the interval from the date of death to the date of assuring, the same law is found to prevail, although in a more remarkable degree; and this difference is evidently owing to the circumstance, that all deaths among policies of long standing must necessarily be included in the more advanced periods of life in Table XIII, but included in younger periods of life in Abstract C. However, as the same law shows itself in both classes of results, and differing only in degree, the greater weight is thereby given to the unexpected prin-

from All Causes, and Average Duration.—Continued.

AGES.

45—49.		50—54.		55—59.		60—64.		65—69.		70—74.		75—79.		80—85.		All Ages.	
.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duration	No.	Average Duvation	No.	Average Duration	No.	Average Duration	No.	Average Duration
	Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms.		Yrs. Ms		Yrs. Ms.
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1 7
	15 1	...	...	2	13 0	5	10 9	...	...	...	...	...	...	...	...	9	10 7
	6 3	33	5 11	30	11 1	23	10 9	37	11 8	12	12 9	2	15 11	...	...	229	8 4
	...	...	...	...	...	2	11 9	2	16 7	1	15 6	...	...	...	...	5	14 5
	8 3	...	...	2	10 5	2	15 7	...	...	...	...	...	...	...	...	7	10 5
	...	1	10 2	...	...	...	...	...	...	...	...	...	...	...	...	3	5 4
	10 1	1	8 3	1	7 8	2	4 11	...	...	...	...	...	...	...	...	6	6 11
	8 2	2	10 5	1	10 10	2	3 7	...	...	1	16 6	...	...	...	...	11	8 1
	4 2	6	8 2	5	10 8	4	8 9	4	12 4	1	19 1	...	...	...	...	35	8 2
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	7 2
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	6 7
	...	...	...	...	...	1	3 3	1	13 6	...	...	...	...	...	...	2	8 4
	...	...	...	...	...	...	...	...	...	1	13 0	...	...	...	...	1	13 0
	...	...	...	...	...	...	...	...	...	1	13 4	...	...	...	...	1	13 4
	...	...	...	1	14 0	1	16 4	1	13 4	...	...	1	13 11	...	...	4	14 6
	9 3	7	7 3	13	10 1	11	11 8	4	12 8	3	14 2	1	19 10	...	...	59	10 6
	10 2	2	3 8	6	9 8	6	7 6	2	13 7	1	17 1	1	19 11	...	...	25	8 10
	...	...	...	2	11 9	3	14 3	...	...	1	14 5	...	...	...	...	7	14 8
	4 8	7	8 5	7	11 11	10	11 10	7	12 0	3	17 3	...	...	...	...	48	10 0
	...	...	...	1	14 11	1	2 2	1	7 4	...	...	...	...	...	...	3	8 2
	7 2	...	...	...	...	1	17 10	...	...	...	...	...	...	...	...	2	12 6
	11 3	1	12 8	...	...	1	15 6	1	20 4	...	...	...	...	...	...	8	10 7
	11 6	2	7 11	1	4 11	2	12 10	...	...	...	...	...	...	...	...	8	9 4
	...	...	...	...	...	...	...	1	10 1	...	...	...	...	...	...	1	10 1
	...	...	...	...	...	1	12 2	...	...	...	...	...	...	...	...	1	12 2
	14 5	3	9 6	2	6 0	5	11 3	6	10 5	2	10 11	...	...	...	...	20	9 9
	17 3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	10 6
	6 6	2	16 0	1	10 0	...	...	...	...	...	...	...	...	...	...	8	6 8
	15 3	...	...	...	...	...	...	...	...	1	14 1	...	...	...	...	2	14 8
	...	...	...	...	...	1	19 7	...	...	...	...	...	...	...	...	1	19 7
	9 5	1	7 2	...	...	...	...	1	9 3	...	...	...	...	...	...	4	29 3
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	9 4
	...	...	...	1	10 3	1	18 9	...	...	...	...	...	...	...	...	2	14 6
	...	...	...	1	15 2	...	...	1	6 2	...	...	...	...	...	...	2	10 8
	8 11	16	10 5	15	9 7	9	13 3	4	10 9	...	...	...	...	...	...	82	8 7
	5 7	4	6 8	2	6 4	...	...	1	7 8	...	...	...	...	...	...	8	6 7

ciples disclosed, and should lead those connected with the management of life offices to the serious consideration of the financial questions which so obviously arise out of the results. From the relatively high rate of mortality at the more advanced ages, than at the younger ages, among assured lives, compared with those of the community generally, an opinion almost universally prevails, that there must be a loss, instead of a profit, connected with the transactions on old lives, and in consequence a number of life offices will not assure the lives of old persons. But if the ratio of lapsed policies, as set forth in Table XV,—and the ratio is much higher in this country, be viewed in connexion with the most remarkable law disclosed in Abstract C and Table XIII, there can no longer be any doubt that the general opinion is a most fallacious one, and unfortunately prevails, to the serious detriment of the older class of lives, to whom, in pecuniary transactions, the principles of life assurance are more strictly applicable than any other. Apart from statistical evidence, it must be sufficiently obvious, on an

attentive consideration of the doctrine of probabilities, that in guaranteeing any event connected with the law of averages, that the nearer to unity the chances of the contingency taking place be, the less the hazard of any adventure on the result. And if to this general principle be added the incidental pecuniary advantages arising from the moral influences and considerations which bear on the prosperity of a life office, the absurd prejudice which prevails against assuring old lives must immediately appear. The following shows the results for six of the principal classes of disease:—

ABSTRACT K.

Average Period elapsed from the Date of Assuring to the Date of Death, among Persons Dying at the following Ages.

DISEASE.	25 to 29.		30 to 34.		35 to 39.		40 to 44.		45 to 49.		50 to 54.		55 to 59.		60 to 64.		65 to 69.		70 to 74.		75 to 79.		All Ages	
	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.	Years.	Months.
All Diseases	3	2	3	6	5	2	6	8	8	2	8	10	9	8	10	10	12	4	14	9	16	6	9	1
I. Zymotic Diseases	2	5	2	11	5	5	7	2	7	7	8	9	8	8	10	1	12	3	13	5	16	1	8	4
II. Dropsy, Cancer, and other Diseases of uncertain or variable seat	2	9	3	2	4	10	7	7	8	10	8	10	9	2	8	9	13	...	15	...	15	7	9	6
III. Tubercular Diseases	4	...	4	1	5	2	4	8	8	9	9	6	11	4	11	7	12	...	13	7	...	...	8	...
IV. Diseases of the Spinal Marrow, Nerves, and Senses	2	10	3	3	4	6	7	7	8	2	9	2	9	6	11	8	12	4	14	7	17	2	9	2
VI. Diseases of the Lungs and of the other Organs of Respiration	2	8	3	8	4	10	6	7	6	5	6	...	11	2	11	2	11	11	12	11	15	11	8	7
VII. Diseases of the Stomach, Liver, and other Organs of Respiration	2	3	3	9	5	8	7	8	6	11	9	8	10	9	10	3	12	4	15	8	17	10	9	1

Of the diseases in class I, namely, the zymotic and sporadic diseases, it will be seen that the duration of the assurances on the lives falling by this class of disease, is less at every age than the average from all causes, except at the term of life 35-44; and it will likewise be seen, that for all ages taken collectively, the duration of the policies lapsing from this disease is less than the average duration of all policies.

The same observation does not apply to class II. Under age 40, the duration of the policies is less than the average; but in the term of life 40-54, greater; the succeeding ten years again less; and in the term 65-74, greater; but for all ages collectively, the duration of policies becoming claims on account of death from this group of diseases, is five months' greater than the average.

In group III, which includes the tubercular diseases, it will be seen, that for all ages under 60, with the exception of the quinquennial term, 40-44, the period elapsed from the date of assuring to the date of death is above the average of the period connected with the deaths from all causes, showing that, for those ages, the deaths of this class, which consist chiefly of phthisis, must be induced by a disease slow in its operation, and in that respect differing from the characteristic of group I. In respect to one term of life, 40-44, the deaths taking place therein, from this group of diseases, have followed very rapidly on the date of the lives being assured, and so remarkably so,

as to reduce the average, at all ages collectively, from this disease, more than one year below the average from all causes. At the term of life 40-44, the period elapsed in the deaths from all causes is 6 years 8 months, but in the group of tubercular diseases, it is only 4 years 8 months; and this would appear to be a true feature of the disease, for the greatest number of deaths have taken place at this term of life; at the other terms of life, when the opposite feature prevails, up till age 60, the result is constantly above the average. On referring to the details of group III, it will be found that these peculiar results are due wholly to the deaths from phthisis, and therefore the preceding observations are strictly applicable to that disease only.

Group IV contains the diseases of the nervous system, and it will be seen that the results do not differ widely from those for all causes; and the same remark applies to the deaths from apoplexy, which form a large proportion of this section.

On referring to group VI, which represents the other disease of the lungs and the organs of respiration, it will be seen that, with the exception of the decennial term of life, 55-64, the deaths take place in a shorter time after the date of assuring than in the average of the deaths from all causes, and in the aggregate of all the ages, the difference is six months. These results are due chiefly to the deaths from pneumonia, which constitute 229 out of the 251 deaths of this group. And it will further be seen, that the deaths from asthma have taken place at a prolonged period beyond the average.

In regard to the diseases enumerated in group VII, it will be found that, on the average, they agree in their results with the deaths from all causes; and that in the different quinquennial terms of life, the results are in some instances above, and in others below, the average.

If attention be now directed to the rate of mortality from the various specified causes given in Table XIII, it will be found that, for all ages taken collectively, the greatest mortality has resulted from zymotic diseases, or those forming group I; and next, tubercular diseases, or group III, which are here separated from the other diseases of the lungs and organs of respiration, which form a distinct class in group VI. The following is an abstract of the results in Table XIII, in so far as concerns the rate of mortality; and it will be observed that the rate of mortality from the zymotic diseases does not differ widely between ages 31-50, but from that age upwards, a rapid and uniform rate of increase takes place:—In group II, including dropsy, cancer, &c., there is a uniform rate of increase from the younger to the older ages. In the class of tubercular diseases, there is not much difference in the rate of mortality from between ages 31-50; but in the next three quinquennial terms of life, there is a gradual increase. In group IV, there will be observed a very great difference between the rate of mortality at the younger and more advanced ages; of the 375 deaths in this group, 274 consist of deaths from apoplexy, and the results are therefore conformable to those already described in connexion with Table XI, preceding. The results of group VI resemble in their relation those in connexion with group III. Group VII, it will be observed, resembles the results of group IV, in having a very low rate of mortality at the earlier ages, and increasing rapidly at the more advanced terms of life.

Table XIV.

Ages.	Number of Persons Assured.	All Causes.		I. Zymotic Diseases.		II. Dropsy, Cancer, and other Diseases of uncertain seat.		III. Tubercular Diseases.		IV. Diseases of Brain, Spinal Marrow, Nerves, and Senses.	
		Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.
15—25...	1,233	4	·324	1	·081	...	...	1	·081	...	...
26—30...	5,595	37	·661	10	·179	2	·036	9	·161	6	·107
31—35...	13,136	113	·860	38	·289	9	·069	38	·289	5	·038
36—40...	20,734	217	1·047	60	·289	18	·087	54	·260	22	·106
41—45...	24,503	278	1·135	64	·261	38	·155	74	·303	29	·118
46—50...	22,507	313	1·394	67	·298	49	·218	66	·293	45	·200
51—55...	18,025	334	1·853	64	·355	46	·255	67	·372	58	·322
56—60...	13,035	363	2·785	66	·506	66	·506	54	·414	63	·483
61—65...	8,324	355	4·265	59	·709	72	·865	49	·589	62	·745
66—70...	4,058	271	6·678	43	1·060	47	1·158	20	·493	53	1 306
71—80...	1,719	181	10·529	29	1·687	33	1·920	5	·291	32	1·862
All Ages	132,869	2,466	1·856	501	·377	380	·286	437	·329	375	·282

Ages.	Number of Persons Assured.	V. Diseases of the Heart and Blood-Vessels.		VI. Diseases of the Lungs and Organs of Respiration.		VII. Diseases of the Stomach, Liver, and other Organs of Digestion.		VIII. Diseases of the Kidneys, &c.		IX. Childbirth, Diseases of the Uterus, &c.	
		Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.
15—25...	1,233	...	...	2	·162	...	...	...	...	...	...
26—30...	5,595	1	·018	4	·071	1	·018	...	...	...	...
31—35...	13,136	1	·008	9	·069	3	·023	...	...	3	·023
36—40...	20,734	7	·034	26	·125	14	·068	5	·024	...	...
41—45...	24,503	6	·024	29	·118	25	·102	2	·008	...	...
46—50...	22,507	11	·049	28	·124	20	·089	4	·018	5	·022
51—55...	18,025	10	·056	33	·183	26	·144	6	·033	1	·006
56—60...	13,035	19	·146	34	·261	37	·283	3	·023	...	...
61—65...	8,324	12	·144	32	·384	41	·493	10	·120	1	·012
66—70...	4,058	2	·049	39	·961	25	·616	8	·197	...	...
71—80...	1,719	...	...	15	·873	15	·873	2	·116	...	...
All Ages	132,869	69	·052	251	·189	207	·156	40	·030	10	·008

Ages.	Number of Persons Assured.	X. Rheumatism, Diseases of the Bones, &c.		XI. Diseases of the Skin, Cellular Tissues, &c.		XIII. Debility.		XV. Old Age.		XVII. Violence, Privation, Cold, and Intemperance.	
		Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.
15—25...	1,233	...	...	...	...	...	...	...	...	...	...
26—30...	5,595	1	·018	1	·018	...	...	...	...	2	·036
31—35...	13,136	...	...	...	...	...	...	...	...	7	·053
36—40...	20,734	2	·010	...	...	...	...	...	...	9	·044
41—45...	24,503	1	·004	...	...	...	...	...	...	10	·041
46—50...	22,507	5	·022	1	·004	...	...	...	...	11	·049
51—55...	18,025	2	·010	1	·006	...	...	...	...	16	·089
56—60...	13,035	1	·008	...	...	1	·008	...	...	17	·130
61—65...	8,324	1	·012	1	·012	...	...	6	·072	10	·120
66—70...	4,058	...	...	1	·025	3	·074	24	·591	5	·123
71—80...	1,719	...	...	...	...	...	...	49	2·850	...	...
All Ages	132,869	13	·010	5	·004	4	·003	79	·059	87	·065

The preceding remarks have been made on six only of the principal groups of diseases, and the following still more condensed abstract of the results may be interesting. The Roman numerals represent the diseases as grouped in the preceding table and Table XIII.

Diseases arranged according to the order of their Intensity at the following Ages.

31—35.	36—40.	41—45.	46—50.	51—55.	56—60.	61—65.	66—70.	70—80.
I	I	III	I	III	I	II	IV	II
III	III	I	III	I	II	IV	II	IV
II	VI	II	II	IV	IV	I	I	I
VI	IV	IV	IV	II	III	III	VI	VI
IV	II	VI	VI	VI	VII	VII	VII	VII
VII	VII	VII	VII	VII	VI	VI	III	III

In the above, as in Table XI, it will be seen that, at the earlier ages, the intensity of the zymotic diseases, and also tubercular disease, is greatest; but at the more advanced, a gradual falling off will be observable in the class of tubercular disease. In the term of life 56-65, tubercular disease stands fourth in the order of intensity, and in the term 66-80, last in order. Again, with respect to class IV, which consists, to a great extent, of deaths from apoplexy, it will be observed that, in the period of life 36-50, it stands fourth in the order of intensity; but that in each of the three succeeding quinquennial terms of life it gradually advances one step in the order of intensity, until, at the term 66-70, it is highest in intensity. This assimilates strictly with the results at page 335, preceding. However, with regard to the class pulmonary diseases, or diseases of the respiratory organs, that not only, in the abstracts just referred to, but in the earlier reports of the Registrar-General, included group III, but also group IV; and if the results be viewed in accordance with this arrangement, the diseases of the respiratory organs will be found to take precedence of all others between ages 31-70, and in the term of life 70-80, they will stand fourth in order.

With the view to show the relative intensity of the various groups of disease at different terms of life amongst different populations, the following abstracts are given from results deduced from facts presented in the reports of the Registrar-General:—

ABSTRACT L.

Mortality of Kent—Males.

Ages.	Causes of Death.							
	All Causes.		I. Zymotic Diseases.		II. Of uncertain or variable seat.		III. Of the Nervous System.	
	Number of Deaths.	Mortality per Cent.	Number of Deaths.	Mortality per Cent.	Number of Deaths.	Mortality per Cent.	Number of Deaths.	Mortality per Cent.
15—19	185	·797	33	·142	18	·078	14	·060
20—24	250	1·165	50	·233	12	·056	14	·065
25—29	198	1·196	32	·193	12	·072	11	·066
30—34	183	1·156	31	·156	13	·082	22	·139
35—39	171	1·368	15	.119	17	·135	18	·143
40—44	174	1·373	26	·205	17	·134	32	·253
45—49	147	1·571	12	·128	23	·246	23	·246
50—54	178	1·845	24	·256	19	·202	22	·234
55—59	148	2·461	12	·200	29	·482	24	·408
60—64	220	3·393	20	·308	44	·679	33	·509
65—69	231	5·558	22	·529	33	·794	44	1·059
70—74	293	8·386	18	·515	46	·831	54	1·546
75—79	228	11·820	18	·933	28	1·452	26	1·348
All Ages	2,607	1·821	313	·219	311	·217	337	·235

Ages.	Causes of Death.							
	IV. Of the Respiratory Organs.		V. Of the Organs of Circulation.		VI. Of the Digestive Organs.		VII. Of the Urinary Organs.	
	Number of Deaths.	Mortality per Cent.	Number of Deaths.	Mortality per Cent.	Number of Deaths.	Mortality per Cent.	Number of Deaths.	Mortality per Cent.
15—19	72	·310	7	·030	7	·030	1	·004
20—24	125	·583	5	·023	12	·056	2	·009
25—29	109	·658	5	·030	12	·072	....	....
30—34	90	·568	7	·044	4	·025	2	·013
35—39	75	·597	9	·072	13	·103	4	·032
40—44	60	·474	9	·071	10	·079	3	·024
45—49	53	·566	6	·064	13	·139	2	·021
50—54	75	·798	9	·096	16	·170	4	·042
55—59	46	·765	13	·216	17	·283	3	·050
60—64	51	·781	18	·278	16	·247	5	·077
65—69	44	1·059	17	·409	24	·577	8	·193
70—74	44	1·259	17	·486	18	·515	12	·343
75—79	25	1·296	4	·207	8	·415	7	·363
All Ages	869	·607	126	·088	170	·119	53	·037

ABSTRACT L.—*Continued.*

Ages.	Causes of Death.									
	VIII. Of the Organs of Generation.		IX. Of the Organs of Locomotion.		X. Of the Integumentary System.		XI. Old Age.		XII. External Causes, Poisoning, Asphyxical Injuries	
	Number of Deaths	Mortality per Cent.	Number of Deaths	Mortality per Cent.	Number of Deaths.	Mortality per Cent.	Number of Deaths.	Mortality per Cent.	Number of Deaths.	Mortality per Cent.
15—19	....	....	6	·026	1	·004	....	....	26	·112
20—24	....	....	7	·033	3	·014	....	....	20	·093
25—29	....	....	2	·012	....	....	....	....	15	·091
30—34	....	....	1	·006	....	....	....	....	13	·082
35—39	....	....	2	·016	2	·016	....	....	17	·135
40—44	....	....	2	·016	....	....	....	....	15	·118
45—49	....	....	3	·032	....	....	....	....	12	·128
50—54	....	....	2	·021	....	....	....	....	7	·075
55—59	....	....	1	·017	....	....	....	....	3	·050
60—64	1	·015	2	·031	1	·015	20	·308	9	·139
65—69	1	·024	....	....	2	·048	31	·312	5	·151
70—74	2	·057	1	·029	1	·029	77	2·204	3	·086
75—79	1	·052	1	·052	1	·052	106	5·495	3	·156
All Ages	5	·003	30	·021	11	·008	234	·163	148	·010

ABSTRACT M.

Twenty-Four Town Districts of England—Males.

Ages.	Male Population.	All Causes.		Zymotic, Endemic, and Contagious Diseases.		Diseases of uncertain or variable seat.		Diseases of the Nervous System.	
		Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.
15—20...	83,707	758	·903	138	·165	61	·073	40	·048
20—30...	161,585	1,756	1·087	270	·167	112	·069	71	·044
30—40...	123,104	1,804	1·465	225	·183	159	·129	132	·107
40—50...	83,442	1,786	2·140	216	·259	202	·242	148	·177
50—60...	47,648	1,526	3·203	121	·254	213	·447	162	·340
60—70...	27,577	1,598	5·795	100	·363	221	·801	189	·685
70—80...	10,555	1,291	12·231	50	·474	123	1·165	110	1·042
	537,618	10,519	1·957	1,120	·208	1,091	·203	852	·158

Ages.	Male Population.	Diseases of the Respiratory Organs.		Diseases of the Organs of Circulation.		Diseases of the Digestive Organs.		Diseases of the Urinary Organs.	
		Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.
15—20...	83,707	322	·385	24	·029	37	·044	1	·001
20—30...	161,585	957	·592	39	·024	63	·039	11	·068
30—40...	123,104	897	·729	49	·040	103	·084	16	·013
40—50...	83,442	825	·989	60	·072	119	·143	22	·026
50—60...	47,648	654	1·373	61	·128	121	·254	19	·010
60—70...	27,577	545	1·976	63	·228	105	·381	29	·105
70—80...	10,555	225	2·132	20	·189	48	·455	31	·294
	537,618	4,425	·823	316	·059	596	·111	129	·024

ABSTRACT M.—*Continued.*

Ages.	Male Population.	Diseases of the Organs of Generation.		Diseases of the Organs of Locomotion.		Diseases of the Integumentary System.		Old Age.		External Causes, Poisoning, Asphyxical Injuries.	
		Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent.	Deaths.	Mortality per Cent	Deaths.	Mortality per Cent.
15—20...	83,707	...	...	14	·017	2	·002	...	...	111	·133
20—30...	161,585	1	·001	20	·012	...	...	...	...	195	·121
30—40...	123,104	2	·002	25	·020	8	·006	...	...	180	·146
40—50...	83,442	...	...	13	·016	9	·011	...	...	153	·183
50—60...	47,648	...	...	25	·052	6	·013	27	·057	97	·204
60—70...	27,577	1	·004	18	·065	10	·036	230	·834	61	·221
70—80...	10,555	...	...	6	·057	3	·028	642	5·944	24	·227
	537,618	4	·001	121	·023	38	·007	899	·017	821	·015

ABSTRACT N.

Mortality of the Metropolis—Males.

CAUSES OF DEATH.	Ages.							
	15—19.	20—29.	30—39.	40—49.	50—59.	60—69.	70—79.	All.
	Mortality per Cent.							
All Causes	·161	·900	1·301	1·967	3·105	4·850	7·448	2·004
I. Zymotic Diseases	·023	·095	·089	·119	·171	·177	·380	·131
SPORADIC DISEASES.								
II. Of uncertain, or variable seat	·015	·067	·163	·270	·537	·818	1·258	·293
III. Of the Nervous System	·008	·045	·120	·237	·039	·600	·892	·215
IV. Of the Respiratory Organs	·072	·543	·689	·962	1·357	1·589	1·268	·809
V. Of the Organs of Circulation	·004	·031	·062	·085	·138	·253	·195	·082
VI. Of the Digestive Organs	·011	·032	·059	·118	·234	·319	·224	·112
VII. Of the Urinary Organs	·001	·006	·017	·039	·088	·170	·181	·045
VIII. Of the Organs of Generation	....	....	....	....	....	....	·104	·0002
IX. Of the Organs of Locomotion	·003	·010	·018	·014	·019	·038	·024	·017
X. Of the Integumentary System	....	·001	·001	·004	·005	·020	·020	·004
XI. Old Age	....	....	....	....	·023	·704	2·847	·191
XII. External causes—Poisoning, Asphyxia, Injuries	·025	·066	·083	·119	·145	·131	·156	·104

With respect to the results in connexion with these abstracts, it may be sufficient to refer to those in connexion with the term of life 41-50; and in so far as concerns the group of zymotic and sporadic diseases, it is obvious that the intensity of mortality is higher in the Gotha Life Office than in any of the other classes of facts brought

forward; but in regard to group II, which includes dropsy, cancer, and diseases of uncertain seat, the opposite result is observable, the mortality being less in the Gotha Life Office than in any of the other class of facts now under observation; but in respect to the diseases of the respiratory organs, the results for the same ages are very remarkable and important, being for the four different class of facts, as follows, viz.:—

Gotha Life Office	·419 per cent.
Division of East Kent	·520 ,,
Metropolis	·962 ,,
Twenty-four Towns	·989 ,,

The immunity from this class of diseases in the Gotha Life Office, and also in the division of East Kent, is remarkable, when placed in contrast with the other figures. Similar remarks are applicable to the two other classes of diseases contained in the following condensed abstract of figures presented in the preceding abstracts:—

Group of Diseases, classified as in Table XIII.	Results per Cent.—Ages 41-50—for the different Classes of Disease in the			
	Gotha Life Office.	Division of East Kent.	Metropolis.	Twenty-Four Towns.
I	·279	·166	·119	·259
II	·186	·190	·270	·242
III + VI	·419	·520	·962	·989
IV	·159	·299	·237	·177
VII	·095	·109	·118	·143

The differences for other terms of life will be easily discovered from an examination of the various abstracts.

With respect to the deaths which have taken place from Asiatic cholera, it will be seen, from Abstract H, that 12 deaths took place from that cause in the ten years 1829-38, 17 in the ten years 1839-48, and 31 in the year 1849. In Table XI, it will be seen that, although the greatest number of deaths happened in the decennial term of life, 41-50, still the highest rate of mortality from this disease was at ages 61-70; and if the results for the whole 21 years, as set forth in Table XIII, be considered, in reference to age, it will be seen that the largest number of deaths have taken place between ages 51-60 but the rate of mortality has gone on increasing from the youngest to the oldest age, as will be seen by the following abstract:—

Ages.	Lives Exposed to Risk.	Deaths from Cholera.	Mortality per Cent.	Being One Death
31—40	33,870	7	·021	4,762
41—50	47,010	15	·032	3,125
51—60	31,050	18	·058	1,724
61—70	12,382	17	·137	730
71—80	1,719	3	·175	571
Total	126,031	60	·048	2,083

A similar law has always been observed elsewhere, although within epidemic periods the mortality must of course be greater than shown in the above table. A few deaths have taken place at intervals throughout the whole period; but if the year of the principal epidemic be considered, namely, 1849, the rate of mortality will appear much increased:—

Ages.	Lives Exposed to Risk.	Deaths from Cholera.	Mortality per Cent.	Being One Death in
31—40.....	3,565	3	·084	1,188
41—50.....	5,766	3	·052	1,922
51—60.....	3,060	10	·327	306
61—70.....	1,653	12	·726	138
70—80.....	341	3	·880	114
Total.....	14,385	31	·215	464

This will be found to be much under the rate of mortality from cholera in Paris and many other places during the year 1832, for all ages taken collectively, the result being one in 42·7 for Paris, but one in 464 in the Gotha Life Office, for ages 31-80. The influence of age is very remarkable in modifying the mortality from this disease. The following are the results for all ages in Paris, showing the mortality from cholera from the 26th March to 30th September, in the year 1832:—

Ages.	Population.	Deaths from Cholera.	Mortality per Cent.	Being One in
0— 5	53,124	1,311	2·468	41
5— 10	50,059	392	·783	153
10— 15	54,696	202	·369	271
15— 20	79,058	377	·477	210
20— 25	82,044	959	1·169	86
25— 30	75,836	1,206	1·590	63
30— 40	125,188	2,771	2·213	45
40— 50	97,526	3,727	2·796	36
50— 60	81,415	2,913	3·577	28
60— 70	58,625	3,121	5·324	19
70— 80	23,262	2,044	8·787	11
80— 90	4,715	365	7·741	13
90—100	314	14	4·458	22
Totals.....	785,862	18,402	2·342	42·7

The following is the rate of mortality from cholera, at corresponding ages, in the Gotha Life Office, Paris and London:—

Ages.	Gotha Life Office, 1849.		Paris, 1832.		London, 1849.	
	Per Cent.	One in	Per Cent.	One in	Per Cent.	One in
31—40.....	·084	1,186	2·213	45	·661	151
41—50.....	·052	1,922	2·796	36	·830	120
51—60.....	·327	306	3·577	28	1·243	80
61—70.....	·726	138	5·324	19	1·726	58
71—80.....	·880	114	8·787	11	2·182	46
Total.....	·215	464	3·776	26	·962	104

Hence the mortality within the ages 31-80, is 1 in 464, while in Paris it was 1 in 26, and in London 1 in 104. The differences for each of the decennial periods of life are also shown.

Abstract H., Table XI, and Table XIII, will show the mortality from violent causes. In the ten years, 1829-38, 11 deaths took place from suicide; in the twenty years, 1829-48, 64 deaths from the same cause; 39 of these deaths took place between ages 41-60. During the twenty-one years, 1829-49, 87 deaths took place from violent causes of all kinds, and an inspection of Section XVII will show the influence of age on the rate of mortality from these causes, and it will be found that with but slight irregularities, which appear to be due chiefly to small numbers, there is a gradual rate of increase from the younger to the older ages. In England and Wales, the deaths from violence, within the above ages, are 1 in 19; in the Equitable Life Office, 1 in 54; and in the Scottish Widows' Fund, 1 in 35; and in the Gotha Life Office, 1 in 28 of the total deaths, within the same term of life.

Allusion has just been made to the mortality in the Scottish Widows' Fund and Life Assurance Society. In the "Monthly Journal of Medical Science" for January 1847, will be found a most interesting paper by James Begbie, M.D., Consulting Physician to the Society, on the Mortality of the Members. This is the only published document of any importance which gives the mortality from different causes amongst assured lives. The nosological arrangement of the return by the Equitable Society being so defective as to render the results of little or no practical value.

The facts brought under consideration by Dr. Begbie include the experience of the "Scottish Widows' Fund" for the years 1815-45, in which 642 deaths took place among 5,989 persons, of whom 447 were females; but it is important to observe that all those persons whose policies were either surrendered or forfeited are not included in the preceding numbers, so that the full number of persons exposed to the risk of mortality in the Society, during the thirty-one years above referred to, is not given. There is another element of importance wanting in Dr. Begbie's paper. While the ages at death from different causes are furnished, the population for those ages, or the number of persons exposed to the risk of mortality at the corresponding terms of life has not been given; it is greatly to be regretted that such is the case, for it deprives his paper of one of its most important uses. However this defect might to some extent have been supplied from

the distribution of ages in the Gotha Life Office, which cannot differ in any very marked manner from those in the Scottish Widows' Fund, had the gross numbers exposed to the risk of mortality also been given, and the surrendered and forfeited policies not been excluded. Notwithstanding these deficiencies, which will render a strict comparison with the results of the Gotha Life Office impossible, Dr. Begbie's paper is still full of interest, and should be studied by every one connected with the management of Life Offices, or giving attention to the more general question of Vital Statistics. It will be impossible within the limits assigned to the present contribution to do justice to the discussion into which Dr. Begbie enters on the results of his investigation, and those who desire to follow him in those important details, must have recourse to the paper itself. The following exhibits the deaths from different causes, for all ages collectively, in the Gotha Life Office, and in the Scottish Widows' Fund Life Assurance Society.

Abstract O.

Cause of Death.	Gotha Life Office.		Scottish Widows' Fund.	
	No.	Per Centage to Total Deaths.	No.	Per Centage to Total Deaths.
Epidemic and Contagious Diseases	503	20·356	93	14·486
Diseases of uncertain seat	380	15·378	52	8·100
Diseases of the Brain and Nerves	375	15·176	133	20·720
Diseases of the Respiratory Organs	688	27·843	152	23·676
Diseases of the Heart and Blood-Vessels	69	2·792	53	8·255
Diseases of the Organs of Digestion	207	8·377	77	11·994
Diseases of the Urinary Organs	40	1·619	23	3·582
Childbirth and Diseases of the Uterus, &c.	10	·405	5	·779
Diseases of the Joints	18	·729	3	·467
Violent Deaths	87	3·521	18	2·803
Old Age	86	3·480	6	·934
Causes not specified	8	·324	27	4·204
Total deaths	2,471	100·000	642	100·000

In the above abstract the relation of the two classes of facts is obvious, and calls for no further commentary, but it may be useful to give the results for each class of disease in the Scottish Widows' Fund according to age.

ABSTRACT P.

DISEASE.	Ages at Death.							
	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Above 80.	Total.
Epidemic and Contagious Diseases	5	15	28	18	22	4	1	93
Diseases of uncertain seat	2	4	7	15	14	9	1	52
Diseases of the Brain and Nerves	5	14	36	34	29	14	1	133
Diseases of the Respiratory Organs	12	45	32	28	22	11	2	152
Diseases of the Heart and Blood-Vessels	....	9	11	15	13	3	2	53
Diseases of the Organs of Digestion	3	13	17	21	17	6	....	77
Diseases of the Urinary Organs	....	2	2	6	4	8	1	23
Childbirth and Diseases of the Uterus, &c.	....	2	3	....	....	....	....	5
Diseases of the Joints	....	1	....	1	1	....	....	3
Violent Deaths	1	4	7	5	1	....	....	18
Old Age	....	....	....	....	....	2	4	6
Causes not specified or ascertained	....	....	....	....	....	....	....	27
All Diseases	28	109	143	143	123	57	12	642

It now only remains to direct attention to Tables XV and XVI, the former of which shows the progress of the Gotha Society, from 1829 to the end of the year 1849, and the latter shows the number and amount of subsisting assurances at the end of the year 1848.

TABLE XV.

Number of Persons effecting Assurances during the Years 1829-49.

Year.	Number of Persons making new Proposals.	Number of Persons effecting new Policies.	Gross number of Persons Assured throughout the Year.	Persons on whose lives Policies were discontinued.			Persons on whose lives Policies were in force at the end of the Year.	Increase in the Year.	Average Age of the Assured.	
				Lapses.	Deaths.	Total.			Years.	Mths.
1829...	1,581	1,285	1,285	...	12	12	1,273	1,273	42	7
1830...	607	504	1,777	14	16	30	1,747	474	42	9
1831...	1,491	1,244	2,991	46	27	73	2,918	1,171	41	10
1832...	1,574	1,165	4,083	214	53	267	3,816	898	42	4½
1833...	1,351	1,041	4,857	120	46	166	4,691	875	42	9
1834...	1,218	902	5,593	156	65	221	5,372	681	43	1
1835...	1,318	989	6,361	156	85	241	6,120	748	43	3½
1836...	1,635	1,213	7,333	172	108	280	7,053	933	43	5
1837...	1,581	1,151	8,204	174	123	297	7,907	854	43	8
1838...	1,555	1,154	9,061	158	124	282	8,779	872	44	...
1839...	1,419	1,024	9,802	199	123	322	9,481	702	44	4½
1840...	1,485	1,089	10,570	200	136	336	10,234	753	44	8¾
1841...	1,414	983	11,217	184	158	342	10,875	641	45	1
1842...	1,352	1,013	11,888	174	191	365	11,523	648	45	5
1843...	1,503	1,049	12,572	195	201	396	12,176	653	45	10
1844...	1,493	1,073	13,249	186	197	383	12,866	690	46	...
1845...	1,412	1,018	13,884	181	235	416	13,468	602	46	4
1846...	1,484	1,096	14,564	214	224	438	14,126	658	46	7
1847...	1,706	1,235	15,361	244	289	533	14,828	702	46	10
1848...	1,151	824	15,652	291	325	616	15,036	208	47	4
1849...	1,377	1,011	16,047	239	337	576	15,471	435	47	9
Total	29,707	22,063	196,352	3,517	3,075	6,592		15,471		

The above will not correspond exactly in some of its details, particularly in relation to the number of deaths, with some of the preceding figures; in fact Table XV is a financial statement of the Society, and those conversant with the practical working of such institutions, will immediately understand the cause of such differences. The number of deaths which have actually taken place up to any given date being of necessity, in every large Society, greater than the payments made on account of deaths to the same date.

In the preceding table there is one feature of an unusual character, and of much practical importance to Life Offices, the ratio of lapsed policies to the gross number of policies effected. It will be seen that out of 22,063 persons whose lives were assured, the policies on the lives of 3,517 were either surrendered, forfeited, or had expired, being about 16 per cent. of the whole. To those not familiar with the experience of Life Offices in this respect, the proportion may seem high, but it is very much below that of Life Offices in this country, and merits serious consideration on the part of those transacting assurance business on the Continent.

The following abstract will show the results for the Gotha Life Office, the Equitable Society of London, and the fifteen Life Offices reported on in 1843 by the Committee of Actuaries.

ABSTRACT Q.

Source of Data.	Date of Experience.	Entrants.	Existing at the termination of Experience.		Discontinued.		Died.	
			Number.	Per Centage to Entrants.	Number.	Per Centage to Entrants.	Number.	Per Centage to Entrants.
Equitable Life Office	1762-1829, being 68 years...	21,398	6,930	32·4	9,324	43·6	5,144	24·0
Fifteen Life Offices	1772-1838, but chiefly from 1810-38, being 29 years	40,616	25,462	62·7	11,226	27·6	3,928	9·7
Gotha Life Office ...	1829-49, being 21 years	22,063	15,471	70·1	3,517	16·0	3,075	13·9
Combined results	.....	84,077	47,863	56·9	24,067	28·7	12,147	14·4

It is hence obvious that while the number of discontinued policies, being policies which have ceased to exist from all causes except death, is only about 16 per cent. of the original number of entrants in the Gotha Life Office, the ratio is as high as 43·6 per cent. in the Equitable, and even 27·6 per cent. in the Fifteen Life Offices. It is to be regretted that the causes of discontinuance of the policies in each of those groups are unknown, but there is such a disparity in the results, that there can be very little doubt that a greater proportion of the policies issued on the Continent are kept in force for prudential reasons or family provisions, and that whether the increased ratio of discontinued policies in this country results from a greater proportion being originally effected for a temporary period only, still it is evident from the fact of a less proportion of them being kept in force, that the prudential feelings among the assuring classes in Germany must be stronger than in this country.

The figures in the last column of Abstract Q, when viewed by themselves, can convey but little information, as the results are not derived from the number exposed to the risk of mortality, but from the original number of entrants, and consequently the rate of mortality will depend on the ratio of discontinued policies, and the ages of the persons exposed to the risk of mortality.

In the following abstract will be found the mortality per cent., without distinction of age, and the average duration of the assurances in each group of facts.

ABSTRACT R.

Data.	Exposed to Risk.	Deaths.	Mortality per Cent.	Entrants.	Average Duration of each Policy.
Equitable	266,872	5,144	1·9	21,398	12·5 years
Fifteen Offices	220,787	3,928	1·8	40,616	5·4 ,,
Gotha Life Office	179,884	3,075	1·7	22,063	8·1 ,,
Total.....	667,543	12,147	1·8	84,077	7·9 ,,

The greater age of the Equitable Life Office destroys the value of any comparison between the results derived from the experience of that Society and either of the other sources of data, but a comparison may fairly be made between the results for the Fifteen Life Offices and the Gotha Life Office. Fourteen of these Offices had on an average been established for eighteen years up to the close of the experience here brought under review, and if the eldest office of the fifteen be included, the average duration of the term over which their transactions extend will not differ widely from that of the Gotha Life Office. This much being explained, it is certainly a very remarkable fact that the average duration of each policy effected in the English Life Offices should be under five and a half years, and exceed the period of eight years in the Gotha Life Office. It is stated in the report by the Committee of Actuaries that, taking the whole of the data which they had under investigation, and which includes the above fifteen offices, and also the Equitable and Amicable Life Offices, the two oldest in existence, that the average duration of all the policies is under eight years and a half. It is therefore evident that the interests of a Life Office, and particularly so in this country, are influenced by a great many other causes than simply the law of mortality prevailing among its members, and there is reason to believe that those disturbing causes will increase in intensity with the increased age and experience of the offices, and the gradual extension of the practice of Life Assurance among the population of this country.

In the following table will be found a statement of the number of subsisting assurances in the Gotha Life Office, on the 31st of December, 1848; to many persons the results may be interesting. The amounts assured are expressed in thalers, or rixdollar Prussian current, each being worth nearly three shillings sterling.

TABLE XVI.

Assurances subsisting in 1848.

Ages.		200— 1,000 Thlr.	1,100— 2,000 „	2,100— 3,000 „	3,100— 4,000 „	4,100— 5,000 „	5,100— 6,000 „	6,100— 7,000 „	7,100— 8,000 „	8,100— 9,000 „	9,100—10,000 „	Total.	
15—20...	Persons.	4	...	...	...	...	...	...	...	...	...	4 Persons	3,500 Thlr.
21—25...		77	7	1	...	2	...	...	...	...	...	87 „	67,800 „
26—30...		391	73	20	8	10	3	3	3	2	9	522 „	692,200 „
31—35...		882	241	71	36	34	20	3	7	2	12	1,308 „	1·888,900 „
36—40...		1,412	387	127	64	55	23	4	14	1	22	2,109 „	3·077,600 „
41—45...		1,759	585	178	109	69	45	5	19	2	27	2,798 „	4·307,100 „
46—50...		1,628	618	199	146	70	37	13	35	1	29	2,776 „	4·614,000 „
51—55...		1,246	478	174	94	64	41	8	19	2	21	2,147 „	3·562,000 „
56—60...		843	334	118	98	69	43	7	15	3	15	1,545 „	2·813,400 „
61—65...		549	217	83	60	29	21	10	15	...	6	990 „	1·750,500 „
66—70...		279	111	32	20	19	14	4	8	1	1	489 „	842,200 „
71—75...		133	37	16	15	5	3	...	2	...	1	212 „	327,700 „
76—84...		30	15	...	1	1	1	1	...	...	...	49 „	64,300 „
	Total.	6·611,100 Thlr.	5·337,900 „	2·880,100 „	2·534,200 „	2·112,600 „	1·499,100 „	·396,200 „	1·089,000 „	·121,500 „	1·429,500 „	15,036 Persons	24,011,200 Thlr.
		9,233 Persons	3,103 „	1,019 „	651 „	427 „	251 „	58 „	137 „	14 „	143 „		

The discussion of the varied subjects brought forward in this paper it is hoped will induce others to follow up the different inquiries into a more complete analysis, and thereby advance the science which it is the object of this section to promote.

On the self-imposed Taxation of the Working Classes in the United Kingdom. By G. R. PORTER, Esq., F.R.S.

[Read before the Statistical Section of the British Association, August, 1850.]

THERE is a species of taxation for the investigating of which we shall not be charged with entering upon forbidden ground. It bears heavily upon the personal resources of the people, who yet are never found to complain of its pressure; and, unlike the taxes which form the subject of so many and such grievous lamentations, it forms a measure of the prosperity of the people, since both will uniformly diminish or increase together; and indeed, the amount of the burthen in question is, when greatest, the best proof that can be offered of the ability of the com-

munity to bear other burthens. I refer, of course, to that self-imposed taxation which consists in the use of articles from which we could very well abstain, which are of little or no use to us either bodily or intellectually, and by foregoing the consumption of which, we should become, individually and nationally, better able to bear the necessary expenses of government. This is a wide field, and it is not my intention to occupy, on this occasion, more than a very small part of it; that part, however, being in other respects than the mere money value of the article consumed, of very high importance.

The particular instances to which I would call the attention of the Section at this time are, the consumption of ardent spirits, beer, and tobacco; the yearly expenditure for which articles in the United Kingdom amounts to a sum which must appear perfectly fabulous, until the reasonableness of the result shall be shown by means of calculations adopted and formed on good authority.

The quantity of spirits of home production consumed in 1849 within the kingdom was as follows :—

In England.....	9,053,676	imperial	gallons.
Scotland	6,935,003	,,	,,
Ireland	6,973,333	,,	,,
Together.....	*22,962,012	,,	,,

The duty upon which quantity amounted to 5,793,881*l.* The wholesale cost, including the duty, would probably amount to about 8,000,000*l.*, a sum which would, however, be very far short of that paid by the consumers. In all trades which, like that of the distributors of spirits, are carried on for the supplying of very numerous customers, and where the sum paid at any one time by each individual is very small, the retail profits must necessarily be great, in order to reimburse the expenses attendant upon the trade, and to afford a living to those engaged in it. It may likewise be fairly assumed, that something greater than the average rate of profit would be required in order to induce persons with the necessary capital to embark in a business accompanied by, or at least liable to, as they must be, circumstances of an unpleasant character. It is not possible to make any precise calculations of those expenses and profits, but a good deal of trouble has been taken in order to make as near an approximation as possible to the truth; and it has been given as the opinion of several distillers who have been consulted, that the consumer pays, for every gallon of spirit used, three times the amount of the duty. Assuming this estimate, it would appear that the cost of British and Irish distilled spirits to the people of England, Scotland, and Ireland, respectively, in 1849, was 17,381,643*l.*, thus divided :—

England.....	£8,838,768
Scotland.....	5,369,868
Ireland	3,173,007
	£17,381,643

* The quantities of home-made spirits consumed in each division of the kingdom are capable of being correctly given, by reason of the different rates of duty chargeable in England, Scotland, and Ireland respectively.

To this must be added the sum spent for rum, nearly the whole of which is used by the same classes as consume the gin and whiskey, of which the cost is here estimated.

The consumption of rum in 1849 amounted to 3,044,758 imperial gallons, the duty paid on which was 1,142,855*l.* The class of consumers being the same, and the means of distribution nearly if not wholly identical, it may fairly be assumed that the cost to the consumer bears an equal relation to the duty with that assigned to British spirits, in which case the expenditure for this kind of spirit will reach 3,428,565*l.*, making the whole outlay of the people for these two descriptions of ardent spirits 20,810,208*l.*, thus locally divided:—

England	£8,205,242
Scotland	6,285,114
Ireland	6,319,852
	£20,810,208

If, for the purpose of the calculation, we assume that the population of the three divisions of the United Kingdom was the same in 1849 as it was found to be at the enumeration of 1841, the consumption per head in the year was—

In England	0·569 gallons.
Scotland	2·647 ,,
Ireland	0·853 ,,

These proportions are such as would fall to the share of each man, woman, and child throughout the land; but it must be evident that many, and especially the women and children, can count for very little in the calculation, if indeed they should not be wholly discarded from it. Adopting this latter view, and dividing the quantity consumed among the adult males in all ranks of life, as they were ascertained in 1841, the following portions would fall to the share of each:—

In England	2·330 gallons,	or about	2⅓ gallons.
Scotland	11·168 ,,	,,	11⅙ ,,
Ireland	3·469 ,,	,,	3½ ,,

Brandy is for the most part drunk by persons not of the working class, as that term is generally, but somewhat arbitrarily understood. The quantity consumed in 1849 was 2,187,500 imperial gallons, the first, or wholesale cost of which was about 546,875*l.*, and the duty paid amounted to 1,640,282*l.*,—together, 2,187,157*l.* The system of distribution is, for the most part, quite different from that used with respect to British and Colonial spirits, a large proportion being purchased in quantities of two gallons and upwards, for use in private families; so that a much smaller rate of gross profit will be required by the dealers. Some part is, however, sold at inns and public-houses by the glass, and for this portion a very high profit will be received, so that it cannot be considered an over estimate if we assume that each gallon costs, on the average, to the consumers 30*s.*, or 50 per cent., advance upon the import cost and duty. This would exhibit an expenditure for brandy of 3,281,250*l.*, which, added to the sum formerly stated, gives a total expenditure within the year for ardent spirits, of the enormous sum of 24,091,458*l.*

The data at command by means of which to estimate the money spent for beer in its various forms, is not so satisfactory as that used in regard to spirits, but is sufficiently precise to enable us to approximate to the truth within a reasonable degree of accuracy.

The number of bushels of malt subjected to duty in 1849, was 37,999,032, or 4,749,879 quarters, but of this quantity only 3,719,145 quarters is set down as having been used by licensed brewers. Of the remaining 1,030,734 quarters, the greater part was, no doubt, used by private families, and the remainder was worked up by the distillers. In order to be on the side of moderation, let us assume that only the quantity (3,719,145 quarters) used in licensed breweries was employed in making beer, and we shall find, upon the usual calculation of $3\frac{1}{4}$ barrels of beer, of average quality and strength, as the product of each quarter of malt, that the number of gallons brewed from the above-mentioned quantity was 435,139,965. The price at which porter is retailed to the consumer varies with the circumstances attending the sale. When it is taken away in the jugs of the buyers for consumption elsewhere, the charge is 3*d.* per quart, or 1*s.* per gallon; but when drunk on the premises of the seller, the charge is one-third more, viz., 4*d.* per quart, or 1*s.* 4*d.* per gallon—a difference of price which, considering the check upon exorbitant profits offered by the great amount of competition among the sellers, affords good evidence of the necessity of a large advance upon the actual cost in order to meet and cover the expenses of retail dealers. The prices here mentioned are for porter; ale is higher in price, and is retailed at 4*d.*, 6*d.*, or 8*d.* per quart, according to its quality, which mainly depends upon the proportion of malt and hops used in its production. On the other hand, table-beer, which is very largely drunk in families, is frequently sold at a lower price than 1*s.* per gallon, but in such cases a smaller or a larger quantity is produced from a like quantity of ingredients. As no means can be found for determining the quantities of each kind and quality of beer consumed, let it be assumed, as very fairly it may be, that taking all qualities into the account, the price to the consumer is a mean between the two prices above stated for porter, viz., 1*s.* 2*d.* per gallon, and we arrive at the sum of 25,383,165*l.* annually spent by the population of this kingdom, and chiefly by the labouring portion, for beer.

It is shown by a statement recently presented to the House of Commons, that the number of persons who are engaged as producers and distributors of beer in England and Wales is as follows:—

Brewers	2,507
Victuallers	88,496
Persons licensed to keep beer-houses	38,070
	129,073

The quantity of unmanufactured tobacco upon which duty was paid in 1849 was 27,480,621 pounds, and of manufactured tobacco and snuff 205,066 pounds, yielding together a revenue of 4,408,017*l.* 14*s.* 11*d.* The retail price ranges from 4*s.* to 14*s.* per pound, seventeen-twentieths or 85 per cent. of the whole being of the lowest price here named, and only about 2 per cent. being of the highest quality, proportions which were stated by several respectable manufacturers who gave evidence

before a Committee of the House of Commons in 1845. On the same authority we are told, that an addition is made of other ingredients in the processes of manufacture amounting to 15 per cent. upon the 85 per cent., which consists of cut or shag, and roll tobacco, while the snuff, which comprises 13 out of 15 parts of the remainder, admits of an increased weight to the extent of from 50 to 60 per cent.

Applying these per centages to the quantity taken for consumption in 1849 we arrive at the following results:—

Shag and roll tobacco, 85 per cent.	23,358,529 lbs.	adding the increase, 15 per cent.	26,862,308 lbs.
Snuff of various kinds, 13 per cent.	3,572,480 lbs.	adding the increase, 55 per cent.	5,537,344 lbs.
Segars, 2 per cent.	549,612 lbs.	(no increase)	549,612 lbs.
	27,480,621 lbs.		32,949,264 lbs.
		Manufactured when imported	205,066 lbs.
So that the quantity for which the public pays as tobacco and snuff is			33,154,330 lbs.

The retail prices, obtained from a respectable shop in a leading thoroughfare in London, at this time (June, 1850) are—

Good shag	3*d.* per oz.	Prince's mixture	6*d.* per oz.
Best ditto	3¼*d.* ,,	Brown rappee	4½*d.* ,,
Bird's eye	3½*d.* ,,	Pale scotch	4*d.* ,,
Returns	3½*d.* ,,	Ditto, best	4½*d.* ,,
Cavendish	4*d.* ,,	Black rappee	4*d.* ,,
K'naster	6*d.* ,,		

The average price of the six qualities of tobacco here given is at the rate of 5*s.* 2*d.* per lb., and that of the five qualities of snuff is 7*s.* per lb. The great bulk of the consumption falls upon the lowest priced quality of tobacco, which is 3*d.* per oz., or 4*s.* per lb. It cannot therefore give an exaggerated view of the sum expended for this article if we assume that lowest price as being paid for the whole. In regard to snuff, a larger proportion of the whole than in the case of tobacco is used by the middling and easy classes, to whom the difference of a penny in the price of an ounce of snuff cannot be any object, and who rarely, if ever, will buy the most inferior quality. The prices, it will be seen, run from 5*s.* 4*d.* to 8*s.* per lb.; if we take the mean of these two prices as the average of the whole, *i. e.* 6*s.* 8*d.* per lb., we shall probably be within the mark. At these rates, the cost to the consumers generally will be as follows:—

26,862,308 lbs.	tobacco, at 4*s.* per lb.	£5,372,461
5,537,344 lbs.	snuff, at 6*s.* 8*d.* per lb.	1,845,781
549,612 lbs.	English-made segars, at 9*s.* per lb.	247,325
	Total for British manufactured	£7,465,567
205,066 lbs.	foreign manufactured, at 12*s.* per lb.	123,040
	Total value as paid by consumers	£7,588,607

which amount would yield about 50 per cent. above the cost of the tobacco as imported and the duty paid thereon, a moderate increase to defray all the expenses of manufacture, and the charges attendant upon

the retailing of an article, nearly the whole of which is paid for in copper coins. There can be no reason to suspect that the amount can be at all overcharged, which leaves no larger margin than this for the gross profits of 209,537 persons, the number which in the year 1848 took out and paid for licences to deal in tobacco and snuff, in addition to 642 persons licensed to manufacture these articles.

It must be remembered, that, with regard to two of the three articles the expenditure for which I have endeavoured to estimate, an indefinite sum should be allowed for the quantities illicitly produced and imported, but as to the amount of which it is altogether impossible to form any trustworthy estimate. We know, however, from the seizures and discoveries that are continually made, that a very large additional amount must be drawn from the pockets of the people, in order to compensate for the risks of the smuggler and the illicit distiller.

If it be conceded that the sums here brought forward are justified by the facts and calculations on which they are based, it would appear that the people, and chiefly the working classes, of England, Scotland and Ireland, voluntarily tax themselves for the enjoyment of only three articles, neither of which is of any absolute necessity, to the following amount:—

British and colonial spirits	£20,810,208
Brandy	3,281,250
Total of spirits	24,091,458
Beer of all kinds, exclusive of that brewed in private families	25,383,165
Tobacco and snuff	7,588,607
	£57,063,230

At the beginning of this paper it was remarked that the amount of money expended upon articles which, like spirits, beer, and tobacco, are not of first necessity, forms a measure of the prosperity of the nation, and of the ability of the community to bear those national burthens which cannot be avoided—a remark the justice of which hardly admits of question; but it would by no means follow that the diminished use of the three articles named would afford proof in itself of lessened means of comfort on the part of the working people, and of diminished prosperity in the nation generally. On the contrary, if it were seen that, as respects gin and whiskey, the $2\frac{1}{3}$ gallons consumed in the year in England—the $11\frac{1}{6}$ gallons so consumed in Scotland—and the $3\frac{1}{2}$ gallons consumed in Ireland, by each adult male, were diminished to one half those proportions, while a larger sale should be effected of sugar, of tea, of articles of decent clothing, and of other matters whereof the females and children should be partakers, there can be no disputing about the advantageous nature of the change, and but little ground for asserting that the general sum of prosperity were lessened. The probability, on the contrary, is, that money thus expended, would afford greater means for employment throughout the country in other branches of industry, and thus open additional sources of prosperity to all.

There is one consideration arising out of this view of the subject

which is of a painful character, and which, if it were hopeless of cure, would be most disheartening to all who desire that the moral progress of the people should advance with at least an equal pace with their physical progress—it is, that among the working classes, so very large a portion of the earnings of the male head of the family is devoted by him to his personal and sensual gratifications. It has been computed, that among those whose earnings are from 10*s.* to 15*s.* weekly, at least one-half is spent by the man upon objects in which the other members of the family have no share. Among artisans earning from 20*s.* to 30*s.* weekly, it is said that at least one-third of the amount is in many cases thus selfishly devoted. That this state of things need not be, and that, if the people generally were better instructed as regards their social duties, it would not be, may safely be inferred from the fact that it is rarely, if ever, found to exist in those numerous cases wherein earnings not greater than those of the artisan class are all that are gained by the head of the family when employed upon matters where education is necessary. It would be monstrous to conceive of any man whose lot is cast among the easy classes, that he should exhibit such a degree of selfish indulgence; and if such a case were found to exist, the individual would be execrated as a monster of brutality. Take even the case of a clerk, with a salary of 80*l.* a year—a small fraction beyond 30*s.* a week—and it would be considered quite exceptional if it were found that anything approaching to a fourth part of the earnings were spent upon objects in which the wife and children should have no share. The peer—the merchant—the clerk—the artisan—and the labourer—are all of the same nature, born with the same propensities, and subject to the like influences. It is true they are placed in very different circumstances, the chief difference being that of their early training—one, happily, which it is quite possible to remedy, and that by means which would in many ways add to the sum of the nation's prosperity and respectability.

MISCELLANEOUS.

Comparative Statement of the Number of Emigrants arrived at the Port of Quebec since the Year 1829 *inclusive.*

Country.	5 Years, from 1829 to 1833.	5 Years, from 1834 to 1838.	5 Years, from 1839 to 1843.	1844.	1845.	1846.	1847.	1848.	1849.
From England	43,386	28,624	30,813	7,698	8,833	9,163	28,725	6,034	8,980
„ Ireland	102,264	54,898	74,981	9,993	14,208	21,409	50,360	16,582	23,126
„ Scotland	20,143	10,998	16,289	2,234	2,174	1,645	3,628	3,086	4,984
„ Germany	15	485	...	...	...	896	7,437	1,395	436
„ Lower Ports, &c.	1,889	1,346	1,777	217	160	...	...	842	968
Total	167,697	96,351	123,860	20,142	25,375	32,753	90,150	27,939	38,494

Grand Total..... 622,761.

An Account of the Net Public Income of the United Kingdom of Great Britain and Ireland, in the Year ended the 5th day of January 1850 (*after abating the Expenditure thereout defrayed by the several Revenue Departments*), *and of the actual Issues or Payments within the same Period, exclusive of the Sums applied to the Redemption of Funded or paying off Unfunded Debt, and of the Advances and Repayments for Local Works, &c.*

Income or Revenue.	£	s.	d.	Total. £	s.	d.
Ordinary Revenue and Receipts:						
Customs	20,636,921	0	11			
Excise	13,985,363	8	3			
Stamps	6,867,548	5	4			
Taxes (Land and Assessed)	4,303,849	7	8			
Property Tax	5,408,159	19	0			
Post Office	832,000	0	0			
Crown Lands	160,000	0	0			
One shilling and sixpence, and four shillings in the pound on Pensions and Salaries	4,561	12	7			
Small Branches of the Hereditary Revenues of the Crown	43,342	7	5			
Surplus Fees of Regulated Public Offices	70,022	1	4			
	52,310,768	2	6			
Other Receipts:						
Produce of the Sale of Old Stores	421,036	0	10			
Imprest and other Monies	82,349	16	3			
Money received from the East India Company	60,000	0	0			
Unclaimed Dividends (more than paid)	77,594	18	10			
	52,951,748	18	5			

Expenditure.	£	s.	d.	£	s.	d.
Funded Debt:						
Interest and Management of the Permanent Debt	23,991,942	1	11			
Terminable Annuities	3,725,993	14	11			
Total charge of the Funded Debt, exclusive of £10,724 11*s.* 9*d.*, the Interest on Donations and Bequests	27,717,935	16	10			
Unfunded Debt:						
Interest on Exchequer Bills	606,025	3	4			
				28,323,961	0	2
Civil List	396,600	0	0			
Annuities and Pensions for Civil, Naval, Military and Judicial Services, &c., charged by various Acts of Parliament on the Consolidated Fund	464,687	14	8			
Salaries and Allowances	268,629	6	1			
Diplomatic Salaries and Pensions	160,833	10	6			
Courts of Justice	1,105,282	9	6			
Miscellaneous Charges on the Consolidated Fund	398,859	19	1			
				2,794,892	19	10
Army	6,549,108	12	5			
Navy	6,942,397	6	10			
Ordnance	2,332,031	8	8			
Miscellaneous, chargeable on the Annual Grants of Parliament (including £113,542 13*s.* 4*d.* for Relief of Distress in Ireland and Scotland)	3,911,231	8	5			
				19,734,768	16	4
				50,853,622	16	4
Excess of Income over Expenditure				2,098,126	2	1
				52,951,748	18	5

RETURN *of the Number and Amount of Money Orders Issued and Paid in the United Kingdom during the Year ending 5th January,* 1840, *and each subsequent Year; the Returns being, to a certain extent, estimated, as respects England, up to the 5th April,* 1847, *inclusive.*

[From Parliamentary Paper, No. 646, Sess. 1850.]

FOR THE YEARS ENDED	MONEY ORDERS ISSUED:											
	ENGLAND AND WALES.			IRELAND.			SCOTLAND.			TOTAL UNITED KINGDOM.		
	Number.	Amount.		Number.	Amount.		Number.	Amount.		Number.	Amount.	
		£	s. d.		£	s. d.		£	s. d.		£	s. d.
5 January..... 1840	142,723	240,063	5 4	30,015	47,295	8 4	16,183	25,765	19 4	188,921	313,124	13 0
5 ,, ... 1841	482,764	802,827	16 8	53,507	77,167	9 2	51,526	80,980	4 5	587,797	960,975	10 3
5 ,, ... 1842	1,290,115	2,657,969	4 3	125,170	215,382	12 8	137,560	254,155	13 4	1,552,845	3,127,507	10 3
5 ,, ... 1843	1,767,626	3,709,778	12 2	169,910	295,878	8 11	174,444	331,520	14 3	2,111,980	4,337,177	15 4
5 ,, ... 1844	2,086,009	4,369,344	4 10	208,179	358,884	5 3	207,335	384,612	7 1	2,501,523	5,112,840	17 2
5 ,, ... 1845	2,333,693	4,858,885	14 9	232,525	391,692	9 9	240,585	444,817	2 10	2,806,803	5,695,395	7 4
5 ,, ... 1846	2,627,443	5,463,453	10 7	258,144	435,330	17 3	290,539	514,576	13 4	3,176,126	6,413,361	1 2
5 ,, ... 1847	2,881,699	5,926,473	13 11	299,521	519,877	1 5	333,859	624,706	0 11	3,515,079	7,071,056	16 3
5 ,, ... 1848	3,286,375	6,600,658	0 2	343,156	585,454	15 10	401,654	717,064	7 9	4,031,185	7,903,177	3 9
5 ,, ... 1849	3,468,823	6,861,803	13 0	359,043	604,192	13 8	375,785	685,298	13 0	4,203,651	8,151,294	19 8
From 6th January to 31st December 1849	3,515,839	6,880,865	11 2	358,578	592,504	14 3	374,474	679,273	12 1	4,248,891	8,152,643	17 6

MONEY ORDERS PAID.

For the Years Ended	England and Wales.		Ireland.		Scotland.		Total United Kingdom.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
		£ s. d.		£ s. d.		£ s. d.		£ s. d.
5 January..... 1840	124,004	208,586 2 7	47,022	71,426 5 3	17,609	31,715 1 3	188,615	311,727 9 1
5 ,, ... 1841	429,600	739,963 18 2	89,388	120,950 11 7	50,900	83,372 17 3	569,888	944,287 7 0
5 ,, ... 1842	1,268,660	2,638,060 10 11	158,651	245,887 18 8	132,899	256,147 17 1	1,560,210	3,140,096 6 8
5 ,, ... 1843	1,734,423	3,687,458 10 10	191,172	297,156 12 1	179,301	348,993 9 0	2,104,896	4,333,608 11 11
5 ,, ... 1844	2,047,605	4,323,820 18 4	232,026	355,973 6 1	216,100	411,664 12 6	2,495,731	5,091,458 16 11
5 ,, ... 1845	2,271,979	4,822,208 2 5	263,070	398,061 4 11	247,070	469,821 11 5	2,782,119	5,690,090 18 9
5 ,, ... 1846	2,540,456	5,348,411 4 4	316,814	483,339 11 3	281,757	539,977 14 3	3,139,027	6,371,728 9 10
5 ,, ... 1847	2,798,682	5,816,084 12 7	395,014	611,320 0 8	316,107	616,692 10 3	3,509,803	7,044,097 3 6
5 ,, ... 1848	3,138,010	6,425,250 15 0	545,709	806,770 19 1	345,811	666,873 5 10	4,029,530	7,898,894 19 11
5 ,, ... 1849	3,384,088	6,816,573 10 1	470,842	665,523 8 10	348,508	670,389 10 8	4,203,438	8,152,486 9 7
From 6th January to 31st December 1849	3,419,861	6,844,633 5 7	476,259	644,430 10 9	349,232	669,292 17 8	4,245,352	8,158,356 14 0

The Commission on Money Orders was, on and from the 20th November, 1840, reduced as follows:—

For any sum not exceeding 2*l.* ..... from 6*d.* to 3*d.*
For any sum above 2*l.*, and not exceeding 5*l.* ..... from 1*s.* 6*d.* to 6*d.*

METROPOLITAN POLICE.

RETURN "*of the Number of Divisions into which the Metropolitan Police District is now divided for the purposes of Police, and the Letter and Name of each Division; the Names of all the Parishes and Places comprised in each Division, and the Total Population thereof, as nearly as can be stated; the Number of Police employed in each Division; distinguishing the Number of every Class or Rank, and specifying the Amount of their respective Salaries and Allowances.*"

[Parliamentary Paper, Session 1848.]

Letter and Name of Division.	Number and Rank of Police in each Division.								Population of each Division, as nearly as can be stated.	Salaries.	At per Annum.			Remarks.
	Inspecting Superintendent.	Superintendents.	Inspectors.	Serjeants.	Constables. 1st Class.	Constables. 2nd Class.	Constables. 3rd Class.	Total.			£	s.	d.	
A. or Whitehall ..	1	1	14	36	70	96	32	250	16,076	Inspecting Superintendent, 1 at	600	0	0	The allowances consist of Clothing and Coals; the latter in the following proportion; viz.:—
B. or Westminster..	..	1	5	32	70	144	74	326	96,994	Superintendents, 1 at	325	0	0	
C. or St. James's ..	..	1	5	28	56	116	59	265	145,298	,, 1 at	300	0	0	
D. or Mary-le-bone .	..	1	6	36	79	167	84	373	179,237	,, 15 at	250	0	0	
E. or Holborn	..	1	4	19	36	72	39	171	93,070	,, 1 at	200	0	0	To each married man 40 lbs. a week during the whole year.
F. or Covent Garden.	..	1	4	17	35	70	36	163	78,657	Inspectors, 2 at	200	0	0	
G. or Finsbury	..	1	5	32	67	139	72	316	142,295	,, 4 at	168	6	0	
H. or Whitechapel .	..	1	4	22	61	93	42	223	155,678	,, 2 at	150	0	0	To each single man 40 lbs. a week during Six Months of the year, and 20 lbs. a week for the remainder of the year.
K. or Stepney	..	1	7	48	100	196	100	452	227,842	,, 1 at	127	8	0	
L. or Lambeth	..	1	4	23	42	88	45	203	133,108	,, 90 at	118	6	0	
M. or Southwark ..	..	1	5	36	74	151	79	346	157,824	,, 1 at	90	0	0	
N. or Islington	..	1	5	55	106	221	114	502	236,088	,, 22 at	81	18	0	
P. or Camberwell ..	..	1	5	35	82	170	89	382	136,089	,, 2 on sick list, at	59	3	0	
R. or Greenwich ..	..	1	13	48	122	128	65	377	131,161	,, 2 ,,	40	19	0	
S. or Hampstead ..	..	1	5	46	90	184	94	420	189,744	Serjeants, 11 at .... from	72	16	0	A reserve Force of 336 men is attached, in parties of 56 each, to the A, B, C, D, G, and M, Divisions, who are employed as occasion requires in any part of the Police District.
T. or Kensington ..	..	1	5	33	63	118	62	282	116,533	to	118	6	0	
V. or Wandsworth .	..	1	5	42	82	157	77	364	101,266	,, 577 at	63	14	0	
Thames Division ..	..	1	24	..	37	36	..	98	..	Constables, 55 at .... from	52	0	0	
										to	81	18	0	
										,, 1st Class, 1,217, at	54	12	0	
	1	18	125	588	1,272*	2,346	1,163	5,513	2,336,960	,, 2d Class, 2,346, at	49	8	0	
										,, 3d Class, 1,163, at	44	4	0	

* Inclusive of 55 men not assigned to any particular Class.

PROCEEDINGS OF THE STATISTICAL SOCIETY OF LONDON.

First Ordinary Meeting, Session 1850-51. *Monday, 18th Nov.*, 1850.

Lieut.-Colonel W. H. Sykes, F.R.S., Vice-President, in the Chair.

The following Gentlemen were elected Fellows:—

C. Hill, Esq. | Captain Townsend Wilson.
J. Walter, Esq., M.P. | Henry Danby Seymour Esq., M.P.
Daniel Keshan, Esq.

The following Papers were read:—

Vital Statistics of Iceland. By Dr. Schleisner.

The Intensity of Cholera in the Indian Army. By Dr. Cuthbert Finch.

THE MARRIAGES, BIRTHS, AND DEATHS,

REGISTERED IN THE DIVISIONS, COUNTIES, AND DISTRICTS OF ENGLAND,

AS PUBLISHED BY AUTHORITY OF THE REGISTRAR-GENERAL.

THIS Return comprises the Births and Deaths registered by 2,189 Registrars in all the districts of England during the Spring quarter ending June 30th, 1850; and the Marriages in more than 12,000 churches or chapels, 2,869 registered places of worship unconnected with the Established Church, and 623 Superintendent Registrars' Offices, in the quarter which ended March 31st, 1850. The Return of marriages is not complete; but the numbers wanting are inconsiderable, and have been supplied from the Returns of previous years.

It is often stated that the marriages of a country increase after epidemics; which by destroying the heads of families, "make room" for new establishments. This theory derives little countenance from the English returns, for the greatest increase that has latterly been observed in marriages took place in 1844-5-6, after a period of low mortality; while the marriages fell, and showed no disposition to rise, after the high mortality which prevailed from the middle of 1846 to the middle of 1847, and again from influenza at the close of 1847 and the first quarter of 1848. The increase of the marriages in 1850 is therefore probably due, not to the cholera, but to the improved prospects of the people, which, it has been before shown, so often lead to this result. The marriages increased in Brighton, Cheltenham, Norwich, Birmingham, Leicester, Nottingham, Derby, and Sheffield; while cholera was not fatal in 1849 to many heads of families in any of these towns. In Merthyr Tydfil, Salisbury, Leeds, and Manchester, cholera was fatal in 1849, and the marriages increased in 1850; but in Hull and Liverpool, where cholera also reigned, the marriages declined, or were stationary, in the first two quarters of the year 1850.

The births registered in the quarter that ended March 31st, 1850, were 144,602; in the quarter that ended June 30th, 155,727. Births are always more numerous in the first than in the second half of the year; and from 1840 to 1845, the births registered in the first quarters were more numerous than those registered in the

second quarters of the six years; but in 1846, 8, 9, 50, a change has taken place, and the excess of births has been thrown upon the June quarters. The number of births in the June quarter of 1850 is the greatest ever registered in England in the same time. The annual rate of births is obtained by comparing the number of children born in a given time with the corrected population. It was in the last June quarter 3·489 per cent., which is the same as the rate in the corresponding quarter of 1849, and less than that in the June quarter of 1846, but much more than in any other June quarter of the years 1839-1850.

Increase of Population.—In the quarter ending June 1850, the births registered were 155,727; the deaths registered were 93,005; the excess of births over deaths was 62,722. The natural increase of the population was 62,722, without taking into account the births of children who may have escaped registration. In the same period, the number of emigrants from London, Plymouth, and Liverpool (the only English ports at which there are Government emigration officers), was 61,778. It might hence be inferred that the population of England was stationary; but a great number of the 50,156 emigrants from Liverpool were, it is believed, from Ireland, and there has been for many years an uninterrupted stream of Irish immigration, which has replaced the emigrants of English origin; so that, notwithstanding the emigration, the population of England increased at a faster rate from 1831 to 1841, than the probable excess of births over deaths would imply.

The mortality is now, it is gratifying to report, much below the average. It has not been so low in any of the corresponding quarters since 1837, when the new system of registration commenced, except in the quarter ending June 1844. The rate of mortality per cent. per annum in the quarter was 2·084. At this rate 1 in 192 persons died in the last three months; in 1847, 1 in 161 persons died in the same time. This shows clearly how much the risk of life has declined. The average chance of living through the three months April, May, June, among persons of all ages, is 179 to 1.

The Registrars in their notes refer to sanitary measures, to the state of employment, and to other circumstances which affect the social condition of the people, as probable causes of the happy improvement in the public health. The registrar of Llanelly refers to the depressed state of the iron trade in his district; but this is a solitary case; and the general tone of the notes is, as expressed by the registrar of Kington, that "the people are employed, and feel the great blessing of cheap and plentiful provisions."

Marriages Registered in the Quarters ending March 31*st*, 1846-50; *Births and Deaths Registered in the Quarters ending June* 30*th*, 1846-50, *in the Divisions, Counties, and Districts of England.*

Population.	Marriages.	Births.	Deaths.
	Registered in the Quarter ending the last Day of		
	Mar.,	June,	June,
	1846..... 31,417	1846..... 149,450	1846..... 90,231
1831..... 13,896,797	1847..... 27,480	1847..... 139,072	1847..... 106,718
1841..... 15,914,148	1848..... 28,398	1848..... 149,760	1848..... 99,730
	1849..... 28,270	1849..... 153,822	1849..... 102,143
Military 29,846	1850..... 30,495	1850..... 155,727	1850..... 93,005

MORTALITY OF THE METROPOLIS.

A Table of the Mortality in the Metropolis, showing the Number of Deaths from all Causes, in the Quarters ending June of the Four Years, 1847–48–49–50.

CAUSES OF DEATH.	Quarters ending June.*			
	1847.	1848.	1849.	1850.
ALL CAUSES	12,361	12,945	13,008	11,238
SPECIFIED CAUSES	12,331	12,877	12,927	11,132
I. Zymotic Diseases	2,148	3,611	3,203	2,032
SPORADIC DISEASES.				
II. Dropsy, Cancer, and other Diseases of uncertain or variable Seat	548	560	553	526
III. Tubercular Diseases	2,440	2,403	2,399	2,118
IV. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	1,590	1,446	1,571	1,479
V. Diseases of the Heart and Blood-Vessels	515	365	487	472
VI. Diseases of the Lungs and of the other Organs of Respiration	1,923	1,672	1,922	1,726
VII. Diseases of the Stomach, Liver, and other Organs of Digestion	830	728	783	710
VIII. Diseases of the Kidneys, &c.	151	149	136	130
IX. Childbirth, Diseases of the Uterus, &c.	177	112	101	122
X. Rheumatism, Diseases of the Bones, Joints, &c.	161	92	92	102
XI. Diseases of the Skin, Cellular Tissue, &c	22	21	20	27
XII. Malformations	40	58	35	43
XIII. Premature Birth & Debility	286	292	298	288
XIV. Atrophy	291	312	263	239
XV. Age	664	498	465	484
XVI. Sudden†	150	133	172	180
XVII. Violence, Privation, Cold, and Intemperance	395	425	427	454
1. Small Pox	181	381	113	103
Measles	277	306	368	232
Scarlatina	174	816	497	234
Hooping Cough	392	449	739	406
Croup	50	80	91	82
Thrush	35	49	35	23
Diarrhœa	202	239	240	200
Dysentery	39	41	41	25
Cholera	4	17	268	9
Influenza	23	50	16	36
Purpura and Scurvy	25	12	14	13
Ague	11	10	9	3
Remittent Fever	16	29	22	27
Infantile Fever‡	10	7	5	10
Typhus	568	882	512	426
Metria, or Puerperal Fever, see Childbirth	..	60	57	51
Rheumatic Fever, see Rheumatism	..	12	17	16
Erysipelas	107	129	114	103
Syphilis	33	31	43	28
Noma or Canker, see Mortification	1	11	2	5
Hydrophobia	..	..	..	..
II. Hæmorrhage	52	45	44	46
Dropsy	216	190	209	191
Abscess	11	19	15	17
Ulcer	24	8	16	8
Fistula	5	7	6	8
Mortification	20	52	42	25
Cancer	197	224	197	219
Gout	14	15	24	12
III. Scrofula	73	100	112	77
Tabes Mesenterica	227	199	196	173
Phthisis or Consumption	1,733	1,699	1,708	1,548
Hydrocephalus	407	405	383	320
IV. Cephalitis	173	140	151	137
Apoplexy	317	256	330	337
Paralysis	255	269	278	262
Delirium Tremens	35	35	33	41
Chorea	1	..	..	4
Epilepsy	101	64	74	64
Tetanus	3	5	7	6
Insanity	31	23	21	31
Convulsions	526	499	516	417
Disease of Brain, &c.	148	155	161	180
V. Pericarditis	34	21	34	26
Aneurism	15	20	26	24
Disease of Heart	466	324	427	422
VI. Laryngitis	47	61	44	60
Bronchitis	710	565	745	696
Pleurisy	67	56	48	35
Pneumonia	748	732	815	712
Asthma	201	136	152	127
Disease of Lungs, &c	150	122	118	96
VII. Teething	120	120	131	119
Quinsey	20	18	12	15
Gastritis	30	14	27	22
Enteritis	106	82	89	87
Peritonitis	66	65	59	55
Ascites	23	24	25	21
Ulceration (of Intestines, &c.)	23	34	27	22
Hernia	45	40	37	41
Ileus	37	24	37	36
Intussusception	22	12	15	13
Stricture of the Intestinal Canal	7	2	11	9
Dis. of Stomach, &c.	85	85	66	55
Disease of Pancreas	..	3	1	..
Hepatitis	55	39	39	60
Jaundice	36	31	44	23
Disease of Liver	155	133	160	128
Disease of Spleen	..	2	3	4
VIII. Nephritis	7	5	2	2
Nephria (or Bright's Disease)	..	32	35	34
Ischuria	2	3	2	2
Diabetes	7	10	12	9
Stone	13	9	5	7
Cystitis	7	10	9	10
Stricture of Urethra	11	21	10	5
Dis. of Kidneys, &c.	104	59	61	61
IX. Paramenia	4	3	1	3
Ovarian Dropsy	20	8	6	15
Childbirth, see Metria	102	63	59	59
Dis. of Uterus, &c.	51	38	35	45
X. Arthritis	4	..	1	3
Rheumatism	84	55	46	54
Disease of Joints, &c.	73	37	45	45
XI. Carbuncle	3	6	5	5
Phlegmon	7	5	8	12
Disease of Skin, &c.	12	10	7	10
XVII. Intemperance	13	12	13	23
Privation	12	5	13	4
Want of Breast Milk, see Privation & Atrophy	..	32	42	32
Neglect	..	2	4	..
Cold, see Privation	..	..	..	1
Poison	370	35	27	25
Burns and Scalds		41	52	63
Hanging, &c.		42	32	77
Drowning		78	67	61
Fractures and Contusions		138	139	131
Wounds		30	26	18
Other Violence		10	12	19
Causes not specified	30	68	81	106

* The mortality of the districts of Lewisham and Hampstead was included in the Metropolitan returns at the commencement of 1847, for the first time. Therefore the deaths for the previous year are not contained in the above table. In the quarter ending June, 1846, they were 152.

† Under the head of "sudden deaths," are classed not only deaths described as sudden, of which the cause has not been ascertained or stated; but also all deaths returned by the Coroner in vague terms, such as "found dead," "natural causes," &c., &c.

‡ In the years previous to 1848, "Worms" and "Infantile Fever" were classed together. The former, of very rare occurrence, is now placed to diseases of stomach, &c.

METEOROLOGICAL TABLE for the Quarter ending June 30, 1850.

NAMES OF THE PLACES.	Mean Pressure of Dry Air reduced to the level of the Sea.	Mean Temperature of the Air.	Highest Reading of the Thermometer.	Lowest Reading of the Thermometer.	Mean Daily Range of Temperature.	Mean Monthly Range	Range of Temperature in the Quarter.	Mean Temperature of the Dew Point.	WIND. Mean estimated Strength.	WIND. General Direction.	Mean Amount of Cloud.	RAIN. Number of Days on which it fell.	RAIN. Amount collected.	Mean Weight of Vapour in a Cubic Foot of Air.	Mean additional weight required to saturate a cubic Foot of Air.	Mean Degree of Humidity.	Mean whole Amount of Water in a Vertical Column of Atmosphere.	Mean Weight of a Cubic Foot of Air.	Height of Cistern of the Barometer above the level of the Sea.
	In.	°	°	°	°	°	°	°					In.	Gr.	Gr.		Gr.	Gr.	Feet.
Guernsey	29·575	52·9	75 0	41·0	10·2	22·6	34·0	48·3	1·5	W.	4·5	42	7·2	4·1	0·6	0·864	4·9	535	123
Helston	29·455	52·2	86·0	32·0	16·1	35·3	54·0	48·6	1·6	S.W. & N.W.	5·4	34	8·4	3·9	1·4	0·747	5·0	531	106
Falmouth	..	52·0	84·0	34·0	16·4	35·0	50·0	..	1·4	Var.	6·5	41	8·7	..	..	..	..	..	120
Torquay	..	54·1	75·0	40·0	11·6	26·0	35·0	46·8	1·4	W. & N.E.	..	42	8·8	4·5	1·1	0·758	4·6	535	..
Truro	..	52·6	83·0	28·0	15·6	37·3	55·0	46·6	1·1	N. & S.W.	6·0	38	7·7	3·8	1·0	0·800	4·7	536	..
Exeter	29·542	53·8	86·2	31·6	18·8	40·6	54·6	47·5	1·8	Var.	3·7	43	9·0	4·0	0·9	0·813	4·7	533	140
Chichester	..	52·3	81·0	33·0	16·6	37·3	48·0	..	..	Var.	..	..	7·7	..	..	..	..	..	..
Uckfield	29·578	53·8	87·0	25·0	21·5	48·3	62·0	47·7	..	S.W.	..	38	8·1	3·7	1·4	0·704	4·5	532	180
Southampton	29·574	53·6	82·0	30·3	..	38·0	51·7	49·3	0·4	..	6.0	41	10·1	4·2	1·1	0·799	5·0	537	55
Royal Observatory Greenwich	29·598	53·5	85·1	31·7	20·3	42·5	53·4	45·1	..	S.W.	..	45	5·6	3·9	1·2	0·754	4·4	532	159
Maidenstone Hill, Greenwich	29·582	52·7	81·3	30·5	17·5	38·5	50·8	48·5	..	Var.	6·6	43	5·6	4·1	0·8	0·847	5·0	533	107
St. John's Wood	29·591	53·0	81·7	32·0	18·1	40·5	49·7	42·4	1·6	..	6·4	44	5·7	3·3	1·4	0·712	4·0	533	150
Chiswell Street, London	29·595	55·6	77·0	40·0	12·1	29·3	37·0	46·9	..	..	..	40	5·6	3·8	1·3	0·734	4·7	530	170
Aylesbury	29·663	53·2	86·0	30·0	21·0	44·0	56·0	43·8	0·6	S. & W.	7·3	41	5·1	3·5	1·4	0·719	4·2	530	284
Stone Observatory	29·563	51·9	82·5	29·9	19·5	41·3	52·6	44·4	0·9	S.W. & N.E.	..	43	5·4	3·5	1·0	0·777	4·3	529	320
Hartwell (near Aylesbury)	29·558	52·6	85·0	29·0	21·4	43·1	56·0	45·3	1·2	S.W. & N.E.	7·0	47	4·0	3·7	1·1	0·778	4·4	532	250
Hartwell Rectory	29·570	51·9	84·2	31·0	19·2	40·6	53·2	44·1	0·8	S.W. & N.E.	5·8	46	3·9	3·5	1·1	0·762	4·4	530	290
Leinsdale, Bucks	..	52·9	85·0	32·0	18·7	40·7	53·0	..	..	N.E.	..	47	4·8	..	..	..	..	..	313
Radcliffe Observatory, Oxford	29·577	52·0	..	..	..	..	..	47·3	2·1	N.E. & S.W.	7·3	40	6·3	3·9	0·7	0·850	4·7	531	210
Rose Hill, Oxford	29·587	52·5	86·0	30·9	19·1	41·9	55·1	47·3	2·0	S.W.	7·5	45	..	4·0	1·0	0·834	4·9	530	270
Cardington (near Bedford)	29·567	52·5	83·0	30·8	19·2	41·6	52·2	45·6	1·2	N.E. & S.W.	7·0	39	4·9	3·7	1·0	0·778	4·5	534	100
Norwich	29·518	51·2	80·0	30·0	16·3	38·6	50·0	45·9	..	S.S.W.	7·0	30	5·2	3·7	0·8	0·840	4·5	536	23
Holkham	29·583	51·3	81·2	30·3	15·7	42·0	50·9	43·9	1·2	N.E.	6·3	36	4·1	3·5	1·0	0·785	4·2	537	39
Highfield House, Notts.	29·518	52·4	87·2	29·8	20·8	45·0	57·4	45·5	0·6	N.E.	7·0	50	4·9	3·7	1·0	0·789	4·5	532	103
Derby	..	50·6	80·0	29·0	17·8	37·7	51·0	46·7	..	..	..	51	5·2	3·8	0·7	0·848	4·6	535	..
Manchester	29·569	52·9	..	..	..	..	..	45·8	..	S.W.	6·6	46	5·6	3·8	1·0	0·790	4·6	533	144
Hawarden	29·550	51·1	75·5	32·4	13·5	33·5	43·1	43·7	2·0	S.	7·0	38	5·1	3·5	1·0	0·782	4·2	531	260
Liverpool Observatory	29·53	52·9	74·7	36·7	10·6	26·7	38·0	46·7	1·2	Var.	6·3	38	4·2	3·9	0·9	0·819	4·7	536	37
Wakefield Prison	29·550	50·9	84·0	26·0	20·0	42·7	58·0	44·2	1·9	Var.	7·2	55	5·0	3·6	1·0	0·744	4·2	535	115
Leeds	29·597	50·5	80·0	30·0	17·6	39·0	50·0	44·3	1·4	..	5·0	46	5·1	3·5	0·8	0·820	4·3	531	125
Stonyhurst Observatory	29·578	49·6	79·0	27·9	16·7	36·9	51·1	42·3	1·3	W.	7·7	47	9·5	3·5	0·6	0·799	4·1	530	381
York	29·562	50·4	77·0	31·0	15·3	33·7	46·0	44·4	..	N.E. & S.W.	..	42	4·5	3·6	0·9	0·798	4·3	536	50
Whitehaven	29·531	50·3	78·5	32·5	12·4	33·2	46·0	44·8	1·9	S.W.	..	43	6·4	3·6	0·6	0·860	4·3	537	90
Durham	29·424	49·1	76·8	27·1	14·1	39·8	49·7	44·8	0·9	Var.	6·6	46	4·8	3·6	0·7	0·839	4·4	531	340
Newcastle	..	50·3	80·0	32·0	12·9	32·3	48·0	44·4	..	S.E. & N.W.	..	33	..	3·6	0·9	0·804	4·3	536	..
North Shields	29·584	48·0	73·7	33·0	10·4	29·5	40·7	44·6	..	Var.	6·0	61	5·5	3·6	0·4	0·934	4·3	540	90
Glasgow	..	49·7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

The mean of the numbers in the first column is 29·561 inches, and it represents that portion of the reading of the barometer due to the pressure of air; the remaining portion, or that due to the pressure of water, is 0·322 inch; the sum of those two numbers is 29·883 inches, and it represents the mean reading of the barometer for the

REVENUE.

Abstract of the Net Produce of the Revenue of Great Britain in the Years and Quarters ending 10th October, 1849 and 1850; showing the Increase or Decrease thereof.—(*Continued from page 285.*)

Sources of Revenue.	Years ending 10th October.			
	1849.	1850.	Increase.	Decrease.
	£	£	£	£
Customs	18,657,563	18,738,805	81,242	....
Excise	12,381,916	12,913,102	531,186	....
Stamps	6,328,213	6,145,780	....	182,433
Taxes	4,326,901	4,335,086	8,185	....
Property Tax	5,383,199	5,413,701	30,502	....
Post Office	852,000	820,000	....	32,000
Crown Lands	130,000	160,000	30,000	....
Miscellaneous	212,543	216,569	4,026	....
Total Ordinary Revenue	48,272,335	48,743,043	685,141	214,433
China Money	84,284	....	....	84,284
Imprest and other Moneys	558,265	684,288	126,023	....
Repayments of Advances	565,383	698,411	133,028	....
Total Income	49,480,267	50,125,742	944,192	298,717
Deduct Decrease			298,717	
Increase on the Year			645,475	

Sources of Revenue.	Quarters ending 10th October.			
	1849.	1850.	Increase.	Decrease.
	£	£	£	£
Customs	5,253,272	5,251,883	....	1,389
Excise	4,287,577	4,103,343	....	184,234
Stamps	1,686,747	1,507,028	....	179,719
Taxes	203,057	186,613	....	16,444
Property Tax	1,914,006	1,867,864	....	46,142
Post Office	224,000	227,000	3,000	....
Crown Lands	20,000	20,000	....	....
Miscellaneous	21,902	28,727	6,825	....
Total Ordinary Revenue	13,610,561	13,192,458	9,825	427,928
China Money	....	....	....	....
Imprest and other Moneys	120,134	121,615	1,481	....
Repayments of Advances	166,199	293,813	127,614	....
Total Income	13,896,894	13,607,886	138,920	427,928
Deduct Increase				138,920
Decrease on the Quarter				289,008

Consolidated Fund Operations.—The total income brought to this account in the quarter ending 10th October, 1850, was 13,618,836*l.* The total charge upon it was 8,566,975*l.*, leaving a surplus of 5,051,861*l.*

The surplus of the Consolidated Fund for the quarter ending 10th October, 1850, was 5,051,861*l.*

The surplus of Revenue, after providing for the charges on the Consolidated Fund, and for the payment of Supply Services in the quarter ending 10th October, 1850, was 1,266,180*l.*

CORN.

Average Prices of Corn per Imperial Quarter in England and Wales, during each Week of the Third Quarter of 1850; *together with the Average Prices for the whole Quarter.*—(*Continued from p.* 286.)

Returns received at the Corn Office, Board of Trade.	Wheat.		Barley.	Oats.	Rye.	Beans.	Peas.
	Weekly Average	Aggregate Average of Six Weeks' regulating Duty.	Weekly Average	Weekly Average	Weekly Average	Weekly Average	Weekly Average
Weeks ending, 1850.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
July 6	40 11	40 4	21 9	17 0	23 2	26 11	26 11
13	41 3	40 6	21 5	16 11	23 3	26 10	28 4
20	42 4	40 11	22 3	17 9	22 7	27 2	26 6
27	43 6	41 6	22 3	18 1	24 9	27 5	27 11
August 3	43 7	42 1	22 4	18 1	22 2	27 4	27 8
10	44 1	42 7	22 5	17 11	23 8	27 8	27 8
17	43 8	43 1	22 8	18 4	23 0	27 9	26 10
24	43 6	43 5	23 0	17 9	20 10	28 2	26 5
31	43 6	43 7	22 4	17 9	23 4	28 1	26 3
September 7	43 2	43 7	23 0	17 11	25 4	28 11	26 11
14	42 10	43 5	23 9	17 4	26 10	28 9	27 10
21	42 7	43 2	24 10	17 1	26 4	29 7	28 9
28	42 8	43 0	24 8	16 8	26 4	29 5	29 5
Average of the Quarter	42 10	..	22 9	17 7	23 11	28 2	27 9

Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ending 5th July, 5th August, and 5th September, 1850; *the Quantities Entered for Home Consumption during the same Months; and the Quantities remaining in Warehouse at the close of them.*—(*Continued from p.* 286.)

[From the "London Gazette."]

WHEAT.

Months ending.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1850.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
5th July	392,383	4,714	397,097	394,094	4,714	398,808	15,436	47	15,483
5th Aug.	470,819	4,873	475,692	473,346	4,873	478,219	12,944	9	12,953
5th Sept.	310,708	1,714	312,422	310,708	1,714	312,422	12,944	9	12,953

WHEAT-FLOUR.

Months ending.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1850.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
5th July	230,678	2,007	232,685	230,629	2,007	232,636	9,403	2	9,405
5th Aug.	229,226	11,910	241,136	229,226	11,910	241,136	7,513	11	7,524
5th Sept.	276,189	10,385	286,574	278,056	10,385	288,441	5,644	11	5,655

Fluctuations in the Stock and Share Market during the Months of July, August, and September, 1850.—(*Continued from p.* 287.)

Stocks and Shares.	Amount of Share.			Amount Paid.			Price on the 1st of			Highest Price during the Months of			Lowest Price during the Months of		
	July.	August.	September.	July.	August.	September.	July.	August.	Sept.	July.	August.	Sept.	July.	August.	Sept.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.									
Consols	...	...	...	...	...	...	96¼	96⅞	96¼	97	97	96¾	96¼	96	96
Exchequer Bills	...	...	...	...	...	...	67*s.* to 70*s.* Pm	68*s.* Pm	66*s.* Pm	70*s.* Pm	70*s.* Pm	67*s.* Pm	66*s.* Pm	64*s.* Pm	63*s.* Pm. to 66*s.* Pm
RAILWAYS—															
Brighton	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	83½	81¼	80	84¼	81¼	85½	79	79¼	84½
Caledonian	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	7⅜	7½	8½	7⅞	7⅞	8¾	6⅞	7⅛	8½
Eastern Counties	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	7¼	6¾	6⅞	7⅜	6¾	6⅛	6⅝	5¾	6
Great Northern	25 0 0	25 0 0	25 0 0	24 0 0	24 0 0	24 0 0	10	8⅝	10½	10⅜	10	14¾	8¼ ex in.	8⅜	14¾
Great Western	100 0 0	100 0 0	100 0 0	100 0 0	100 0 0	100 0 0	58½	59	60½	59½	61 ex d.	73½	55	57¼	73¼
London and North-Western	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	109	111¼	110	112	111¾ x.d	116¼	108	110¾	115½
Midland	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	34½	34	33½	35⅜	34¾	44½	32½	32	44
North Staffordshire	20 0 0	20 0 0	20 0 0	17 10 0	17 10 0	17 10 0	6¼	6⅜	6¾	6⅝	6⅝	7⅜	5¾	6¼	7½
South-Eastern	33 2 4	33 2 4	33 2 4	33 2 4	33 2 4	33 2 4	14½	14⅜	16¼	14¾	16¼	21¼	13¾	13¾	20¾
South-Western	Stock	Stock	Stock	100 0 0	100 0 0	100 0 0	57	59½	65	60½	65½	73	54¼	57½	69¾
York, Newcastle, & Berwick	Stock	Stock	Stock	25 0 0	25 0 0	25 0 0	15	14⅞	15	15	15	16¾	13⅜	14⅜	16½
York and North Midland	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	15⅞	15⅝	16⅝	16⅛	16⅞ ex d.	22	13⅞	15⅛	21
Boulogne and Amiens	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	20 0 0	6⅛	7⅜	7¼	8	7⅝	8⅛	6⅛	6¾	8⅛
Northern of France	20 0 0	20 0 0	20 0 0	16 0 0	16 0 0	16 0 0	13¾	14¾	14⅜	14⅞ ex in	15	14¾	13¾	14⅜	14½
East Indian	20 0 0	20 0 0	20 0 0	7 0 0	9 0 0	9 0 0	7⅜	9⅝	9¼	7⅞	9¾	9¾	7¼	9⅛	9¼

Average Price of Meat as sold in Smithfield Market in the Months ending July, August, and September, 1850.—(*Continued from p.* 287.)

[From Returns sent to the Board of Trade.]

Description.	July.	August.	Sept.	Description.	July.	August.	Sept.	Description.	July.	August.	Sept.
	s. d.	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*		*s. d.*	*s. d.*	*s. d.*
Inferior Beasts	2 7	2 9	2 4	Inferior Sheep	2 11	3 1	3 0	Coarse Calves	2 0	2 11	3 2
2nd class	3 0	3 2	2 10	2nd Class	3 3	3 5	3 4	Small Prime Calves	3 2	3 6	3 8
3rd class (Large Prime)	3 5	3 4	3 4	3rd do.	3 7	3 10	3 8	Large Hogs	3 4	3 2	3 4
4th class (Scots)	3 9	3 7	3 6	4th do. (South Down)	3 7	4 0	4 0	Small Neat Porkers	3 9	3 9	3 10
				Lambs	4 4	4 6	...				

N.B.—Price of Meat at the rate of 8 lbs. Avoirdupois to the stone, sinking the offal.

CURRENCY.

BANK OF ENGLAND.

An Account, pursuant to the Act of the 7th and 8th Victoria, c. 32, for the Weeks ending on Saturday, the 6th July, the 3rd and 31st August, and the 28th September, 1850.—(Continued from p. 288.)

[From the "London Gazette."]

ISSUE DEPARTMENT.

	Weeks ending,			
	6th July, 1850.	3rd Aug., 1350.	31st Aug., 1850.	28th Sept., 1850.
	£	£	£	£
Notes issued	30,152,515	30,190,710	30,103,815	30,083,295
Government Debt	11,015,100	11,015,100	11,015,100	11,015,100
Other Securities	2,984,900	2,984,900	2,984,900	2,984,900
Gold Coin and Bullion..	15,928,057	15,986,752	15,883,857	15,863,337
Silver Bullion	224,458	203,958	219,958	219,958
Total	30,152,515	30,190,710	30,103,815	30,083,295

BANKING DEPARTMENT.

Proprietors' Capital....	14,553,000	14,553,000	14,553,000	14,553,000
Rest	3,089,916	3,191,367	3,536,662	3,560,587
Public Deposits	9,564,513	5,480,874	8,261,281	10,854,230
Other Deposits.....	9,273,018	9,976,414	9,281,099	8,877,696
Seven Day and other Bills	1,250,349	1,331,720	1,305,014	1,247,484
Total	37,730,796	34,533,375	36,937,056	39,092,997
Government Securities, including Dead Weight Annuities..	14,374,908	14,285,583	14,430,847	14,433,230
Other Securities	11,943,840	10,139,611	11,419,381	12,985,843
Notes	10,695,955	9,476,515	10,421,070	11,049,995
Gold and Silver Coin ..	716,093	631,666	665,758	623,929
Total	37,730,796	34,533,375	36,937,056	39,092,997

COUNTRY BANKS.

Average Aggregate Amount of Promissory Notes of Country Banks, which have been in Circulation in the United Kingdom, distinguishing the several Banks, or Classes of Banks by which issued in each part of the Kingdom, during the weeks ending 13th July, 10th August, and 7th September, 1850.—(Continued from p. 288.)

Banks.	13th July, 1850.	10th August, 1850.	7th September, 1850.
England—Private Banks	3,529,138	3,502,161	3,411,984
Joint Stock Banks	2,718,485	2,672,582	2,611,314
Scotland—Chartered, Private, and Joint Stock Banks.....	3,238,520	3,172,656	3,173,646
Ireland—Bank of Ireland, Private and Joint Stock Banks	4,144,819	4,078,255	4,153,979
Total.....	13,630,962	13,425,654	13,350,923

INDEX TO VOL. XIII.

Page

AGRICULTURAL Statistics of Ireland. By G. R. Porter, Esq., F.R.S. 25
Annual Report, Sixteenth, of the Statistical Society, Session 1849-50.... 97
Association, British, for the Advancement of Science, Nineteenth Meeting of, held at Birmingham, September 12th and 19th, 1849. Section F. Statistics 85
Averages, on the Relative Value of, derived from different numbers of observations, by W. A. Guy, M.B., Hon. Sec. 30

BANK of England, *see* Currency.
Banks, Country, *see* Country Banks.
Bankruptcies in England and Wales, in each Month of the Quarter ending December 31, 1849, showing the Counties and Branches of Industry in which they have occurred 96
Barton, John, Esq. The Influence of Subdivision of the Soil on the Moral and Physical Well-being of the People of England and Wales, by 63
Books, Foreign, Customs Duties on 278
Brewers and Licensed Victuallers, Number of, in 1848 279
Bricks, Duties on 277
British Dominions in India, Contributions to the Statistics of Sugar produced within the, by Lieut.-Col. W. H. Sykes, F.R.S. 1
British Museum, Number of Visitors to the, 1844-1849 273
Brittany, Abstract of the Report of a Tour in the Five Departments of, during 1840 and 1841, under instructions from the Academy of the Moral and Political Sciences, made by MM. Benoiston de Chateauneuf and Villermé, Members of that Academy, from the Fourth Volume of the Memoirs of the Academy of Moral and Political Sciences of Paris 134

CALCUTTA, Vital Statistics of, by Dr. Cuthbert Finch 168
Census Committee of the Statistical Society of London, 1850, Proceedings of.... 267

Page

Cholera, Origin and Spread of, in the 8th District of Plympton St. Mary, Devon, by A. C. MacLaren, Esq. 103
Coal Trade of Great Britain 84
Coast of Africa, Mortality in the Royal Navy employed on the, in 1840-1848 278
Commerce, Foreign, of France, the Progress of the, from 1830 to 1848, by J. Towne Danson, Esq. 289
Consolidated Fund Operations in the Quarter ending January 5, 1850.... 85
—— Ditto, Quarter ending April 5, 1850 189
—— Ditto, Quarter ending July 5, 1850 285
—— Ditto, Quarter ending October 5, 1850 373
Continent, Mortality of the Provident Classes of this Country and the, by F. G. P. Neison, Esq. 313
Continental States and Prussia, Railways in, at the close of the Year 1848, by Bernard Hebeler, Esq., Consul-General for Prussia 77
Contributions to the Statistics of Sugar Produced within the British Dominions in India, by Lieut.-Col. W. H. Sykes, F.R.S. 1
Corn, Average Prices of, during each Week of the last Quarter of 1849, with the Average Prices for the whole Quarter 94
—— Ditto during First Quarter of 1850 190
—— Ditto during Second Quarter of 1850 286
—— Ditto during Third Quarter of 1850 374
Corn in France, Fluctuations of the Annual Supply and Average Price of, during the last Seventy Years, by J. T. Danson, Esq. 152
Corn, Grain, &c., Average Prices of, for the Year 1849 271
Cotton Trade, Examination of the Statistics of, in Great Britain, by G. R. Porter, Esq., F.R.S. 305
Country Banks, Average Aggregate of Promissory Notes circulating in the United Kingdom 95, 192, 288, 376
Cultivation of Hops, Pounds Weight, and Amount of Duty 272, 273

Page

Currency, Bank of England, Account for the Weeks ending October 13, November 10, and December 8, 1849 95
—— Ditto Weeks ending January 5, February 2, and March 2, and March 30, 1850 192
—— Ditto Weeks ending April 13, May 4, May 25, and June 8, 1850 288
—— Ditto Weeks ending July 6, August 3, August 31, and September 28, 1849 376
Customs' Duty on Foreign Books.... 278

Danson, J. Towne, Esq. The Progress of the Foreign Commerce of France, by, from 1830 to 1848.... 289
Depositors in Savings Banks, classification of 84
Duty on Game Certificates, 1844-49 272
—— Hops 273
—— Bricks 277
—— Foreign Books 278
Dwellings of the Poor, Statistical Account of, in St. Pancras, by Lieut.-Col. W. H. Sykes, F.R.S. 46

East and West Indies, Mortality of European Troops in 277
Edgell, The Rev. E. Wyatt. Proposal for Preserving, &c., the Parish Registers anterior to 1837 218
Emigration, on the Progress of, from the United Kingdom, during the last Thirty Years, by J. Towne Danson, Esq. 61
—— to Canada 275
Emigrants who arrived at the Ports of Quebec and Montreal during the Year 1849. Returns of the Trades or Callings of the 183
—— who arrived at the Port of Quebec in the Years 1829 to 1849 inclusive.... 364
Expenditure of the Public Income of the United Kingdom, 1850 365

Finch, Dr. Cuthbert. Vital Statistics of Calcutta, by 168
Fletcher, Joseph, Esq., Hon. Sec. of the Statistical Society of London. Statistical Account of the Police of the Metropolis, by.... 221
Fluctuations in the Stock and Share Market during the months of—
January, February, March.... 191
April, May, June 287
July, August, September 375
France, Annual Supply and Average Price of Corn in, during the last Seventy Years 152

Page

France, on the Foreign Commerce of, from 1830 to 1848, by J. Towne Danson, Esq. 289
Game Certificates, Duty on, 1844-49 272
Glass, Plate, in Great Britain, from 1760 to 1847, with Remarks on Foreign Production and the Export Trade of, by Henry Howard, Esq. 80
Grain, *see* Corn.
Great Britain, Cotton Trade of, by G. R. Porter, Esq., F.R.S. 305
Guy, William A., M.B., Cantab, Hon. Sec. of the Statistical Society of London, on the Relative Value of Averages derived from different numbers of Observations 30

Hebeler, Bernard, Esq. (Consul-General for Prussia.) Railways in Prussia and other Continental States in 1848, by 77
Hops, Cultivation, Pounds Weight, and amount of Duty of 272, 273
Howard, Henry, Esq., on the Manufacture, &c., of Plate Glass in Great Britain, from 1760 to 1847 80

Income, Public, of the United Kingdom, 1850 365
India, Statistics of Sugar produced in the British Dominions in, by Lieut.-Col. W. H. Sykes, F.R.S. 1
Influence of Subdivision of the Soil on the Moral and Physical well-being of the People of England and Wales, by J. Barton, Esq. 63
Institutions, Public, in London 283
Ireland, Agricultural Statistics of, by G. R. Porter, Esq., F.R.S. 25

Labouring Population in St. Pancras, Statistics of, by Lieut.-Col. W. H. Sykes, F.R.S. 46
Licensed Victuallers and Brewers, number of in 1848 279

MacLaren, A. C., Esq., on the Origin and Spread of Cholera in the 8th District of Plympton St. Mary, Devon 103
Malt, number of Quarters made in the United Kingdom, 1849 271
Manufacture, &c., of Plate Glass in Great Britain from 1760 to 1847, by Henry Howard, Esq. 80
Marriages, Births, and Deaths, in England, as published by the Registrar-General 86, 184, 280, 369
Master Mariners, Mortality of, by F. G. P. Neison, Esq. 193

Page

Meal, *see* Corn.
Meat, Monthly Return of Average Price of 191, 287, 375
Meteorology, Quarterly Table furnished to the Registrar-General by the Astronomer Royal. 91, 187, 284
Metropolis, Return of Births, Deaths, and Marriages in 86, 184, 280, 369
—— Statistical Account of Police of, by Joseph Fletcher, Esq., Hon. Sec. Statistical Society of London 221
Metropolitan Police, Number, Rank, &c., in each Division of, 1st September, 1848 368
Money-Orders, Number and Amount Issued and Paid in the United Kingdom, 1850 366
Montreal, Return of the Trades or Callings of the Emigrants arriving at the Port of, during the year 1849 183
Moral and Physical well-being of the People of England and Wales, the Influence of the Subdivision of the Soil on, by J. Barton, Esq. 63
Mortality of the Provident Classes of this Country and the Continent, by F. G. P. Neison, Esq. 313
—— in 117 of the Districts of England, Quarterly Reports of 90, 186, 282
—— of European Troops in East and West Indies 277
—— in the Royal Navy on the Coast of Africa, 1840-1848 278
—— of Master Mariners, by F. G. P. Neison, Esq. 193

Navy, Royal, Mortality in, on the Coast of Africa, 1840-1848 278
Neison, F. G. P., Esq., Mortality of Master Mariners, by 193
—— Mortality of the Provident Classes of this Country and the Continent 313
Number of Persons Employed on the Railways of the United Kingdom at the close of 1849 270
—— Quarters of Malt made in the United Kingdom, 1849 271
—— Visitors to the British Museum, 1844-1849 273
—— Slave-Vessels and Slaves Captured and Condemned, 1840-1848 277
—— Brewers and Licensed Victuallers 279

Parish Registers anterior to 1837, Proposal for Preserving, &c., by The Rev. E. W. Edgell 218
Plate Glass, *see* Glass.

Page

Police of the Metropolis, Statistical Account of, by Joseph Fletcher, Esq., Hon. Sec. to Statistical Society of London 221
—— Number, Rank, &c., in each Division of, 1st September, 1848 368
Porter, G. R., Esq., F.R.S., Agricultural Statistics of Ireland, by 25
—— Comparative Statement of Prices and Wages, 1842-49, by 210
—— On the Cotton Trade of Great Britain, by 305
—— Self-imposed Taxation of the Working Classes, by 358
Prices and Wages, Comparative Statement of, from 1842 to 1849, by G. R. Porter, Esq., F.R.S. 210
Proceedings of the Statistical Society of London 86, 183, 279, 369
—— Census Committee of the Statistical Society of London, 1850.... 267
Provident Classes of this Country and the Continent, Mortality in, by F. G. P. Neison, Esq. 313
Prussia and other Continental States, Railways in, at the close of 1848, by Bernard Hebeler, Esq., Consul-General for Prussia 77

Quebec and Montreal, Return of the Trades and Callings of the Emigrants who arrived at the Port of, in 1849 183
—— Number of Emigrants arrived at, from 1829 to 1849, inclusive 364

Railways in Prussia and other Continental States at the close of 1848, by G. Bernard Hebeler, Esq., Consul-General for Prussia 77
—— Number of Persons Employed on, in the United Kingdom, in 1849 270
Registrar-General's Returns, *see* Marriages, Births, and Deaths.
Revenue, Abstract of the Annual and Quarterly Net Produce of the, showing the Increase and Decrease thereof 93, 189, 285, 373
—— Income and Expenditure of the United Kingdom, 1850 365

Shipping employed in the Trade of the United Kingdom, 1849 276
Slaves and Slave-Vessels, number of, captured and condemned, 1840-48 277
Statistics, Vital, of Calcutta, by Dr. Cuthbert Finch 168
—— of Sugar produced in the British Dominions in India, by Lieut.-Col. W. H. Sykes, F.R.S..... 1

Page

Statistics of the Manufacture, &c., of Plate Glass, by H. Howard, Esq. 80
—— of the Labouring Population inhabiting the Buildings in St. Pancras, erected by the Metropolitan Society for Improving the Dwellings of the Poor.... 46
Statistical Account of the Police of the Metropolis, by Joseph Fletcher, Esq., Hon. Sec. to the Statistical Society of London 221
—— Society, Proceeding of, 86, 183, 279, 369
—— Sixteenth Annual Report of, Session 1849–50.... 97
—— Proceedings of Census Committee of, 1850 267
—— Abstract of Receipts and Expenditure 102
—— First Ordinary Meeting, 1849-50, Nov. 19, 1849 86
Second ditto, Dec. 17, 1849 86
Third ditto, January 21, 1850 . 86
Fourth ditto, Feb. 18, 1850 183
Fifth ditto, March 18, 1850 183
Sixth ditto, April 22, 1850 184
Seventh ditto, May 20, 1850.... 279
Eighth ditto, June 17, 1850 279
—— First Ordinary Meeting of, Session 1850-51, Nov. 18, 1850 369

Fellows Elected—
The Right Rev. the Lord Bishop of Oxford 86
His Excellency Chevalier Bunsen (Prussian Ambassador) 86
The Rev. Napleton Penoyre 86
The Rev. H. Molesworth St. Aubyn.... 86
The Rev. Charles Allen Elton 86
Augustus S. Oliver Massey, Esq. 86
Alexander MacLaren, Esq. 86
J. B. Blackett, Esq. 86
John Presant, Esq..... 86
James Bampton, Esq. 86
George McCulloch, Esq. 86
S. D. Dempsey, Esq. 86
The Right Hon. Earl Grey 86
Fred. D. Goldsmid, Esq. 86
Henry Findon, Esq. 86
J. A. Higham, Esq. 183
John Cook, Esq. 183
J. C. Williams, Esq. 183
W. H. Smith, Esq. 183
C. Ryley, Esq. 183
Lord Harry Vane 184
R. Thomson Jopling, Esq. 184
J. H. Murchison, Esq. 279

Page

Archibald Alastie, Esq., M.P. 279
J. H. Stirling Sotheron, Esq., M.P. 279
George Forbes, Esq. 279
Robert Warner, Esq. 279
Charles Hill, Esq. 369
J. Walter, Esq., M.P. 369
Henry Danby Seymour, Esq., M.P. 369
Captain Townsend Wilson 369
Daniel Keshan, Esq. 369

Foreign Honorary Members elected—
M. Michel Chevalier 279
M. Joseph Garnier 279
M. D. L. Rodet 279
M. Léon Faucher 279
Stock and Share Market, Fluctuations in, ... 191, 287, 375
Sykes, Lieut.-Col. W. H., F.R.S. Contributions to the Statistics of Sugar produced within the British Dominions in India, by 1
—— Statistical Account of the Labouring Population Inhabiting the Buildings at St. Pancras, by 46

Taxation, Self-imposed, of the Working Classes of the United Kingdom, by G. R. Porter, Esq., F.R.S. 358
Troops, European, Mortality of, in East and West Indies.... 277

Value of Averages derived from different Numbers of Observations, by W. A. Guy, M.B., Cantab 30
Victuallers, Licensed, Number of, 1848 279
Villermé and Benoiston de Chateauneuf. Abstract of a Tour in Brittany in 1840-41, by 134
Visitors to the British Museum, 1844-1849 273
Vital Statistics of Calcutta, by Dr. Cuthbert Finch 168

Wages and Prices, Comparative Statement of, from 1842 to 1849, by G. R. Porter, Esq., F.R.S. 210
Weather, Remarks on the, during the Quarter ending September 30, 1849, by James Glaisher, Esq. 91
—— December 31, 1849 187
—— March 31, 1850 284
—— June 30, 1850 372

LONDON: PRINTED BY HARRISON AND SON, ST. MARTIN'S LANE.

CONTENTS OF VOL. XIII. PART I.

Page

Contributions to the Statistics of Sugar Produced within the British Dominions in India. By Lieut.-Colonel W. H. Sykes, F.R.S. 1

Agricultural Statistics of Ireland. By G. R. Porter..... 25

On the Relative Value of Averages derived from different numbers of Observations. By William A. Guy, M.B., Cantab, Fellow of the Royal College of Physicians; Professor of Forensic Medicine, King's College; Physician to King's College Hospital; Honorary Secretary of the Statistical Society 30

Statistical Account of the Labouring Population Inhabiting the Buildings at St. Pancras, erected by the Metropolitan Society for Improving the Dwellings of the Poor. By Lieut.-Colonel W. H. Sykes, F.R.S. 46

On the Progress of Emigration from the United Kingdom during the last Thirty Years, with reference to the growth of the Population during the same Period. By J. T. Danson 61

The Influence of Subdivision of the Soil on the Moral and Physical well-being of the People of England and Wales. By John Barton, Esq..... 63

Railways in Prussia and other Continental States, at the close of the Year 1848. Contributed by Bernard Hebeler, Esq., Consul-General for Prussia.... 77

Statistics on the Manufacture of Plate Glass in Great Britain from 1760 to 1847, with Remarks on Foreign Productions and the Export Trade. By Henry Howard, Esq., Plaistow, Essex 80

Miscellaneous:—

Classification of Depositors in Savings' Banks 84

Coal Trade of Great Britain 84

Nineteenth Meeting of the British Association for the Advancement of Science, held at Birmingham, September 12th-19th, 1849. Section F. Statistics 85

Proceedings of the Statistical Society of London 86

The Marriages, Births, and Deaths, Registered in the Divisions, Counties, and Districts of England, as published by authority of the Registrar-General 86

Mortality of the Metropolis 90

Quarterly Meteorological Table 91

Notes on the Meteorological Table for the Quarter ending September 30th, 1849..... 92

An Abstract of the Net Produce of the Revenue of Great Britain, in the Years and Quarters ending 5th January, 1849 and 1850; showing the Increase or Decrease thereof 93

Consolidated Fund Operations 93

Average prices of Corn per Imperial Quarter in England and Wales, during each Week of the Fourth Quarter of 1849; together with the Average Prices for the whole Quarter 94

Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ending 10th October, 5th November, and 5th December, 1849, the Quantities entered for Home Consumption during the same Months; and the Quantities remaining in Warehouse at the close of them 94

Weekly Return from the Issue and Banking Departments of the Bank of England, for the Weeks ending 13th October, 10th November, and 8th December, 1849 95

Average Aggregate Amount of Promissory Notes of Country Banks which have been in Circulation in the United Kingdom during the Weeks ending 6th October, 3rd November, and 1st December, 1849..... 95

An Analysis of the Bankruptcies in England and Wales gazetted in each Month of the Quarter ending 31st December, 1849; showing the Counties and branches of Industry in which they have occurred 96

London:—Printed by Harrison and Son, 45, St. Martin's Lane.

CONTENTS OF VOL. XIII. PART III.

Page

Mortality of Master Mariners. By F. G. P. Neison, Esq. ... 193

On a Comparative Statement of Prices and Wages during the Years from 1842 to 1849. By G. R. Porter, F.R.S. ... 210

Proposal for preserving and making a general index of the Parish Registers anterior to 1837. By Rev. E. Wyatt-Edgell ... 218

Statistical Account of the Police of the Metropolis. By Joseph Fletcher, Esq., Barrister-at-Law, Honorary Secretary ... 221

Proceedings of the Census Committee of the Statistical Society of London, 1850 267

Miscellaneous:—

Number of Persons employed on the Railways of the United Kingdom ... 270

Average Prices of Corn, Grain, &c., for the year 1849 ... 271

Number of Quarters of Malt made in the United Kingdom, 1849 ... 271

Duty on Game Certificates, 1844-49 ... 272

Cultivation of Hops, Pounds Weight, and Amount of Duty ... 272, 273

Number of Visitors to the British Museum, 1844-49 ... 273

Corn, Grain, Meal, and Flour imported into the United Kingdom in 1849 ... 274

Emigration to Canada ... 275

Shipping employed in the Trade of the United Kingdom ... 276

Duties on Bricks ... 277

Mortality of European Troops in East and West Indies ... 277

Number of Slave Vessels and Slaves Captured and Condemned, 1840-48 ... 277

Customs' Duty on Foreign Books ... 278

Mortality in the Royal Navy employed on the Coast of Africa, 1840-48 ... 278

Number of Brewers and Licensed Victuallers in 1848 ... 279

Proceedings of the Statistical Society of London ... 279

The Marriages, Births, and Deaths, Registered in the Divisions, Counties, and Districts of England, as published by authority of the Registrar-General 280

Mortality of the Metropolis ... 282

Public Institutions in London ... 283

Quarterly Meteorological Table ... 284

An Abstract of the Net Produce of the Revenue of Great Britain, in the Years and Quarters ending 5th July, 1849 and 1850; showing the Increase or Decrease thereof ... 285

Consolidated Fund Operations ... 285

Average prices of Corn per Imperial Quarter in England and Wales, during each Week of the Second Quarter of 1850; together with the Average Prices for the whole Quarter ... 286

Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ending 5th April, 5th May, and 5th June, 1850, the Quantities entered for Home Consumption during the same Months; and the Quantities remaining in Warehouse at the close of them ... 286

Fluctuations in the Stock and Share Markets during the Months of April, May, and June, 1850 ... 287

Average Price of Meat as sold at Smithfield Market in the Months of April, May, and June, 1850 ... 287

Weekly Return from the Issue and Banking Departments of the Bank of England, for the Weeks ending 13th April, 4th May, 25th May, and 8th June, 1850 ... 288

Average Aggregate Amount of Promissory Notes of Country Banks which have been in Circulation in the United Kingdom during the Weeks ending 23rd March, 20th April, and 18th May, 1850 ... 288

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CONTENTS OF VOL. XIII. PART IV.

Page

Progress of the Foreign Commerce of France during the Reign of Louis Philippe, 1830-48. By J. T. Danson, Esq. 289

Examination of the recent Statistics of the Cotton Trade in Great Britain. By G. R. Porter, Esq., F.R.S. 305

Mortality of the Provident Classes in this Country and on the Continent. By F. G. P. Neison, Esq. 313

On the Self-imposed Taxation of the Working Classes in the United Kingdom. By G. R. Porter, Esq., F.R.S. 358

Miscellaneous:—

Comparative Statement of the Number of Emigrants arrived at the Port of Quebec since the Year 1829, inclusive 364

An Account of the Net Public Income of the United Kingdom of Great Britain and Ireland, in the Year ended the 5th day of January, 1850 (after abating the Expenditure thereout defrayed by the several Revenue Departments), and of the actual Issues or Payments within the same Period, exclusive of the Sums applied to the Redemption of Funded or paying off Unfunded Debt, and of the Advances and Repayments for Local Works, &c. 365

Return of the Number and Amount of Money-Orders Issued and Paid in the United Kingdom during the Year ending 5th January, 1850, and each subsequent Year; the Returns being, to a certain extent, estimated, as respects England, up to the 5th April, 1847, inclusive 366

Metropolitan Police 368

Proceedings of the Statistical Society of London 369

The Marriages, Births, and Deaths, Registered in the Divisions, Counties, and Districts of England, as published by authority of the Registrar-General 369

Mortality of the Metropolis 371

Quarterly Meteorological Table 372

An Abstract of the Net Produce of the Revenue of Great Britain, in the Years and Quarters ending 10th October, 1849 and 1850; showing the Increase or Decrease thereof 373

Consolidated Fund Operations 373

Average prices of Corn per Imperial Quarter in England and Wales, during each Week of the Third Quarter of 1850; together with the Average Prices for the whole Quarter 374

Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ending 5th July, 5th August, and 5th September, 1850; the Quantities entered for Home Consumption during the same Months; and the Quantities remaining in Warehouse at the close of them 374

Fluctuations in the Stock and Share Markets during the Months of July, August, and September, 1850 375

Average Price of Meat as sold at Smithfield Market in the Months of July, August, and September, 1850 375

Weekly Return from the Issue and Banking Departments of the Bank of England, for the Weeks ending 6th July, 3rd and 31st August, and 28th September, 1850 376

Average Aggregate Amount of Promissory Notes of Country Banks which have been in Circulation in the United Kingdom during the Weeks ending 13th July, 10th August, and 7th September, 1850 376

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F. 476